AO 121 (6/90)Case: 1:10-cv-00883 Document #: 49 Filed: 07/10/15 Page 1 of 1 PageID #:442

то:	
COMMISSIONER OF PATENTS AND TRADEMARKS	REPORT ON THE
(USPTO)	FILING OF DETERMINATION OF AN
P.O. Box 1450	ACTION REGARDING A PATENT OR
Alexandria, VA 22313-1450	TRADEMARK

In compliance with 35 U.S.C. 290 and/or 15 U.S.C. 1116 you are hereby advised that a court action has been filed on the following patent(s)/trademark(s) in the U.S. District Court:

DOCKET NO. 10-cv-883	DATE FILED 2/9/2010			ATES DISTRICT COURT, NORTHERN OF ILLINOIS, EASTERN DIVISION
PLAINTIFF: Trading Technologies Interna	ational, Inc.	DEFENDANTS: thinkorswim Group, Inc., et al		
TRADEMARK NUMBER	DATE OF	DATE OF TRADEMARK		HOLDER OF PATENT OR TRADEMARK
6,766,304	6,766,304 7/20/04 Trading Technologies Intern		Trading Technologies International, Inc.	
6,772,132	6,772,132 8/3/04			Trading Technologies International, Inc.
7,212,999	,999 5/1/07 Trading Tec		Trading Technologies International, Inc.	
7,533,056	,056 5/12/09			Trading Technologies International, Inc.

In the above-entitled case, the following trademarks(s) have been included:

DATE INCLUDED	INCLUDED BY [] Amendment [] Answer	[] Cross Bill [] Other Pleading
TRADEMARK NUMBER	DATE OF TRADEMARK	HOLDER OF PATENT OR TRADEMARK

In the above-entitled case, the following decision has been rendered or judgment issued:

DECISION/JUDGMENT		
CLERK	(BY) DEPUTY CLERK:	DATE:
Thomas G. Bruton	Chez Chambers	7/10/2015

	Case 3:15-cv-01526-0	CAB-MDD Docume	nt 2 Filed 07	/10/15 Page 1 of 1
То:	Director of the U.S. Pa P.O. Alexandria.	il Stop 8 atent and Trademark Offi Box 1450 VA 22313–1450	ACTION	REPORT ON THE OR DETERMINATION OF AN NREGARDING A PATENT OR TRADEMARK
been	ompliance with 35 U.S.C. 8	290 and/or 15 U.S.C. §	1116 you are her California on the	eby advised that a court action has collowing: _X_ Patents or
DOC	CKET NO.	DATE FILED	US District Cou	ırt Southern District of California
3:15-	-cv-01526-BTM-MDD	7/10/15	San Diego, CA	
	INTIFF		DEFENDANT	
IPS C	Group, Inc.		Duncan Solution	ns Inc
	PATENT OR	PATENT OR		PATENT OR
	TRADEMARK NO.	TRADEMARK NO.		FRADEMARK NO.
	595,054	6.	11.	
2. 7,8	354,310	7.	12.	
3.		8.	13.	
4		9.	14.	· · · · · · · · · · · · · · · · · · ·
5	In the above—entitle	10. ed case, the following part	tents(s)/ tradema	rk(s) have been included:
DAT	E INCLUDED	INCLUDED BY		
DAI	L INCLUDED	INCLODED BY		
		Amendment	Answer Cross	Bill Other Pleading
	PATENT OR	PATEN		PATENT OR
	TRADEMARK NO.	TRADEMA	ARK NO.	TRADEMARK NO.
1		6.		11.
2		7.		12.
3		8.	-	13.
4		9.		14.
5	T . 41 1	10.		15.
	in the above–entitied	case, the following deci	ision has been ren	idered or judgment issued:
DEC	ISION/JUDGMENT			

(BY) DEPUTY CLERK

DATE

CLERK

John Morrill

Case: 1:15-cv-06056 Document #: 9 Filed: 07/10/15 Page 1 of 1 PageID #:24

AO 120 (Rev. 08/10) REPORT ON THE Mail Stop 8 TO: Director of the U.S. Patent and Trademark Office FILING OR DETERMINATION OF AN P.O. Box 1450 ACTION REGARDING A PATENT OR Alexandria, VA 22313-1450 TRADEMARK In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been USDC, Northern Dist. of Illinois, Eastern Div. filed in the U.S. District Court on the following ☑ Patents. (☐ the patent action involves 35 U.S.C. § 292.): ☐ Trademarks or DOCKET NO. DATE FILED U.S. DISTRICT COURT 2015cv6056 7/9/2015 USDC, Northern Dist. of Illinois, Eastern Div. PLAINTIFF DEFENDANT Travel Caddy, Inc. Belkin International, Inc. PATENT OR DATE OF PATENT HOLDER OF PATENT OR TRADEMARK TRADEMARK NO. OR TRADEMARK 1 6,742,636 6/1/2004 LUGGAGE AMERICA dba Olympia International In the above—entitled case, the following patent(s)/ trademark(s) have been included: DATE INCLUDED INCLUDED BY ☐ Amendment ☐ Answer Cross Bill ☐ Other Pleading PATENT OR DATE OF PATENT HOLDER OF PATENT OR TRADEMARK TRADEMARK NO. OR TRADEMARK In the above—entitled case, the following decision has been rendered or judgement issued: DECISION/JUDGEMENT

CLERK (BY) DEPUTY CLERK DATE Thomas G. Bruton Scott White 7/10/2015

Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy

Case Circle - dv4097/4-607/dxiu Diectume 107 #C16544 Feithyd: 075/426/105/126/1201Patgle 12agfell 1249/1246/90)

O 121 (6/90)					
то:					
COMMISSIONER OF PATENTS AND TRADEMARKS (USPTO) P.O. Box 1450 Alexandria, VA 22313-1450		REPORT ON THE FILING OF DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK			
In compliance with that a court action has been	a 35 U.S.C. 290 and/or filed on the following	r 15 U g pate	J.S.C. 1116 y ent(s)/tradema	you are ark(s) i	e hereby advised in the U.S. District Court:
DOCKET NO.		DATE FILED: UNITED STATES DISTRICT COURT, NORTHERN DISTRICT OF ILLINOIS, EASTERN DIVISION		RN DISTRICT OF ILLINOIS,	
10 C 716	3/9/2010			ISION	
Plaintiff(s): Trading Tech. Intl Inc		Defendant(s): SunGard Data Sysems, Inc.			
TRADEMARK NUMBER	DATE OF T	FRADE	EMARK	нол	LDER OF PATENT OR TRADEMARK
7,212,999	05/01/2007			Richa	ard W. Friesen, Peter C. Hart
7,533,056	05/12/2009			Same	as above
7,676,411	03/09/2010			Gary A. Kemp, II, Jens-Uwe Schluetter Harris Brumfield	
In the above-e	entitled case, the foll	lowin	g trademark	s(s) h	ave been included:
DATE INCLUDED	INCLUDED BY [] Amendme	ent	[] Answer	[](Cross Bill [] Other Pleading
TRADEMARK NUMBER	DATE OF T	TRADI	EMARK	но	LDER OF PATENT OR TRADEMARK
1.				ļ	
2.					
3.					
In the above-en	titled case, the following	g deci:	sion has been 1	rendere	d or judgment issued:
DECISION/JUDGMENT	-				
CLERK - THOMAS G. BRUTON	DEPUTY CLE	RK: S	S. James		DATE: 5/18/2015

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO. : 7,212,999 B2 Page 1 of 10

APPLICATION NO. : 09/289550 DATED : May 1, 2007

INVENTOR(S) : Richard W. Friesen et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

The Title Page, showing the illustrative Figure, should be deleted and substitute therefor the attached title page.

Delete Figs. 2, 3A, 3B, 3D, 3E, 9, 4, 6, 7, 10 and substitute therefor the drawing sheets, consisting of Figs. 2, 3A, 3B, 3D, 3E, 9, 4, 6, 7 and 10 as shown on the attached pages.

Column 6, line 41: please delete "\$29.50" and insert --slightly less than \$27.35--.

Column 10, line 10: please delete "value/quality" and insert --value/quantity--.

Column 10, line 12: please delete "quality" and insert -- quantity--.

Claim 34, column 16, lines 17-18: please delete "of plurality of" and insert -- of the plurality of--.

Signed and Sealed this Nineteenth Day of April, 2011

David J. Kappos

Director of the United States Patent and Trademark Office

(12) United States Patent

Friesen et al.

(10) Patent No.:

US 7,212,999 B2

(45) Date of Patent:

EP

May 1, 2007

(54) USER INTERFACE FOR AN ELECTRONIC TRADING SYSTEM

(75) Inventors: Richard W. Friesen, Fairfax, CA (US); Peter C. Hart, San Rafael, CA (US)

Assignee: Trading Technologies International, Inc., Chicago, IL (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

Appl. No.: 09/289,550

(22) Filed: Apr. 9, 1999

(65)**Prior Publication Data**

US 2003/0097325 A1 May 22, 2003

(51) Int. Cl. G06Q 40/00 (2006.01)

U.S. Cl. 705/37; 705/35; 345/440.2

Field of Classification Search 705/37 See application file for complete search history.

(56)References Cited

U.S. PATENT DOCUMENTS

4,674,044	Α	6/1987	Kalmus et al	364/408
4,750,135	Α	6/1988	Boilen	
4,799,156	A	1/1989	Shavit et al	364/401
4,823,265	Α	4/1989	Nelson	
4,903,201	Α	2/1990	Wagner	
5,038,284	A	8/1991	Kramer	

5,077,665 A 12/1991 Silverman et al. (Continued)

FOREIGN PATENT DOCUMENTS

0 388 162 A2 * 3/1990

(Continued)

OTHER PUBLICATIONS

How the Futures Markets Work, Jake Bernstein, 1989, New York Institute of Finance, pp. 62-67.*

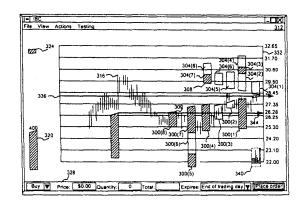
(Continued)

Primary Examiner—Charles R. Kyle (74) Attorney, Agent, or Firm-McDonnell Boehnen Hulbert & Berghoff LLP

(57)ABSTRACT

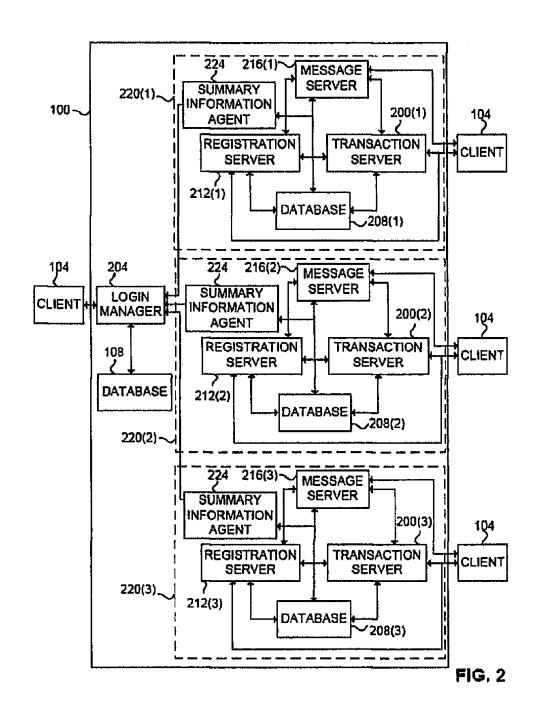
A user interface for an electronic trading exchange is provided which allows a remote trader to view in real time bid orders, offer orders, and trades for an item, and optionally one or more sources of contextual data. Individual traders place orders on remote client terminals, and this information is routed to a transaction server. The transaction server receives order information from the remote terminals. matches a bid for an item to an offer for an item responsive to the bid corresponding with the offer, and communicates outstanding bid and offer information, and additional information (such as trades and contextual data) back to the client terminals. Each client terminal displays all of the outstanding bids and offers for an item, allowing the trader to view trends in orders for an item. A priority view is provided in which orders are displayed as tokens at locations corresponding to the values of the orders. The size of the tokens reflects the quantity of the orders. An alternate view positions order icons at a location which reflects the value and quantity of the order. Additionally, contextual data for the item is also displayed to allow the trader to consider as much information as possible while making transaction decisions. A pit panel view is also provided in which traders connected to the pit are represented by icons, and are displayed corresponding to an activity level of the trader.

35 Claims, 11 Drawing Sheets



May 1, 2007

Sheet 2 of 11



U.S. Patent

Sheet 3 of 11

7,212,999 B2

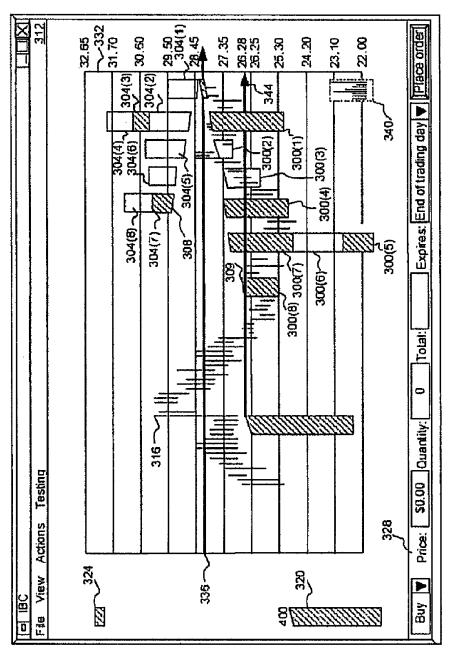
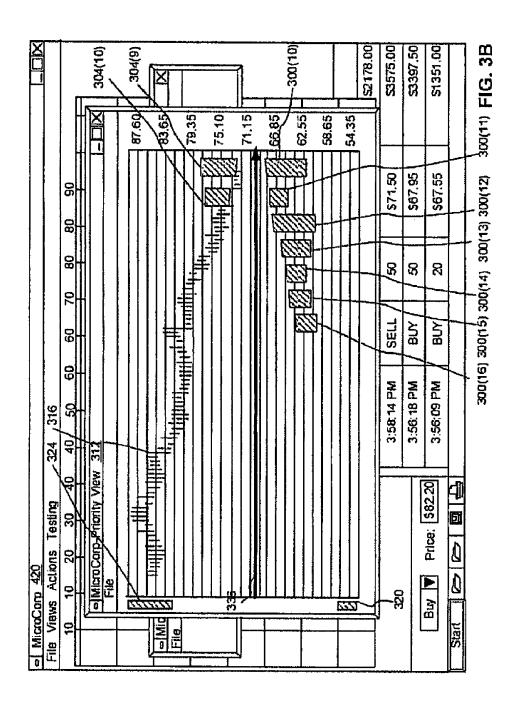


FIG. 3A

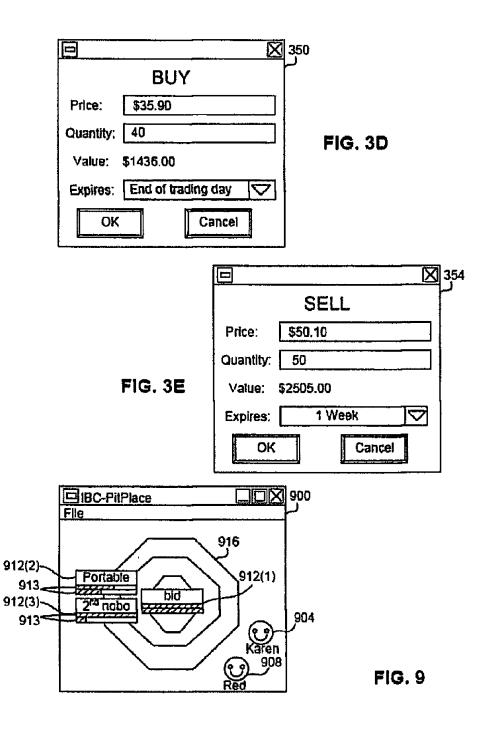
U.S. Patent

Sheet 4 of 11



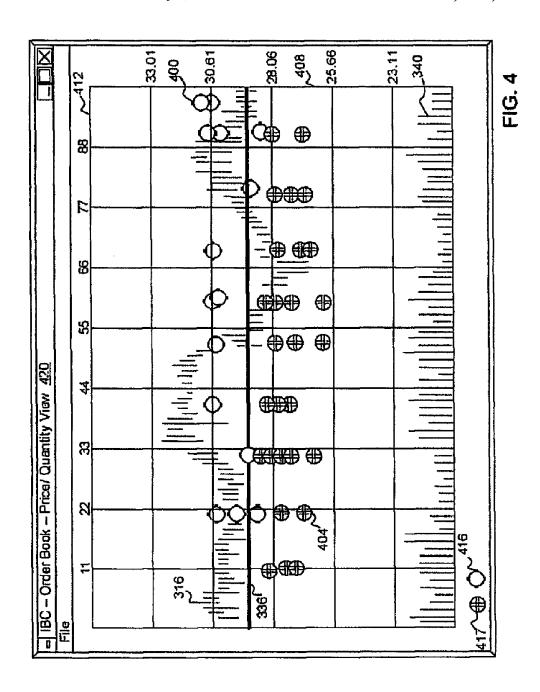
U.S. Patent

Sheet 6 of 11



U.S. Patent

Sheet 7 of 11



May 1, 2007

Sheet 8 of 11

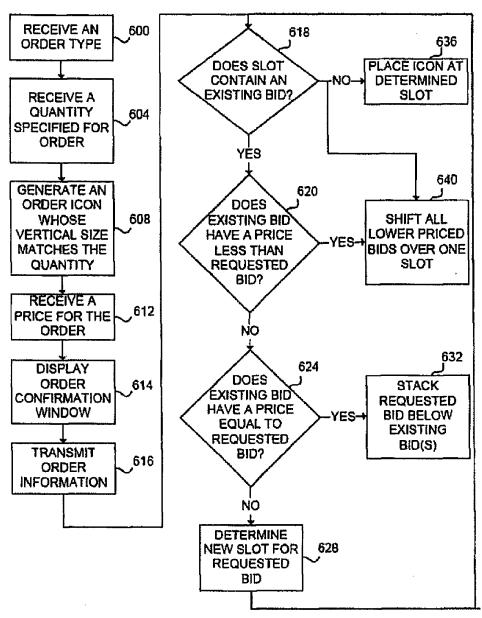


FIG. 6

May 1, 2007

Sheet 9 of 11

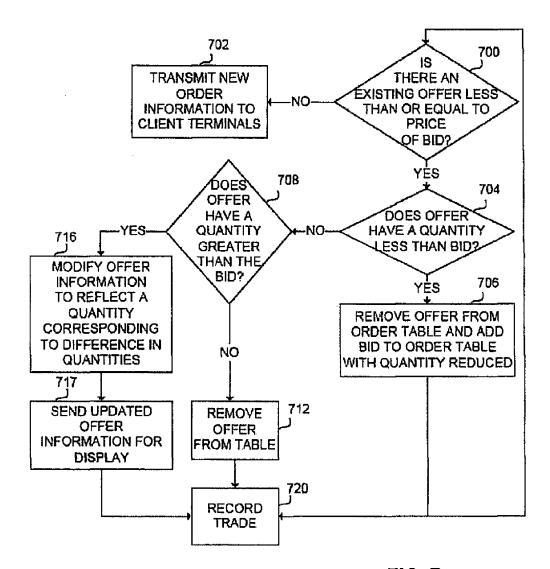
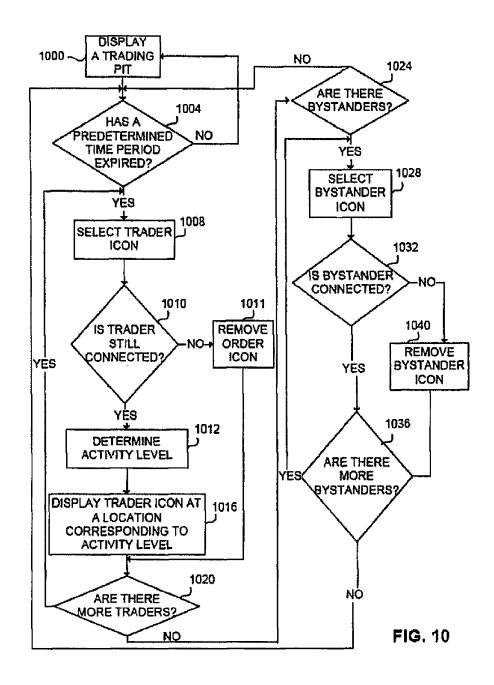


FIG. 7

May 1, 2007

Sheet 10 of 11



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UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO.

: 7,212,999 B2

Page 1 of

APPLICATION NO.: 09/289,550

ISSUE DATE

May 1, 2007

INVENTOR(S)

Richard W. Friesen, et al.

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 6, line 41: please delete "\$29.50" and insert --slightly less than \$27.35-- .

Column 10, line 10: please delete "value/quality" and insert --value/quantity--.

Column 10, line 12: please delete "quality" and insert --quantity--.

Claim 34, column 16, lines 17-18: please delete "of plurality of" and insert --of the plurality of--.

The Title Page, showing the Illustrative Figure, should be deleted and substitute there for the attached title Page.

Delete Figs. 2,30,30,30,3E, 9,4,6,7,10 and substitute therafa the drawing sheets, consisting of Figs 2,34,38,30,3E,9,4,6, 7 and 10 as shown on the attached Page.

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US007212999B2

(12) United States Patent

Friesen et al.

(10) Patent No.:

ЕP

US 7,212,999 B2

(45) Date of Patent:

May 1, 2007

(54) USER INTERFACE FOR AN ELECTRONIC TRADING SYSTEM

(75) Inventors: Richard W. Friesen, Fairfax, CA (US);

Peter C. Hart, San Rafael, CA (US)

(73) Assignee: Trading Technologies International, Inc., Chicago, IL (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: 09/289,550

(22) Filed: Apr. 9, 1999

(65) Prior Publication Data

US 2003/0097325 A1 May 22, 2003

(56) References Cited

U.S. PATENT DOCUMENTS

4,674,044	Α	6/1987	Kalmus et al	364/408
4,750,135		6/1988	Boilen	
4,799,156		1/1989	Shavit et al	364/401
4,823,265		4/1989	Nelson	
4,903,201	Α	2/1990	Wagner	
5,038,284	Α	8/1991	Kramer	

5,077,665 A 12/1991 Silverman et al.

(Continued)

FOREIGN PATENT DOCUMENTS

0 388 162 A2 * 3/1990

(Continued)

OTHER PUBLICATIONS

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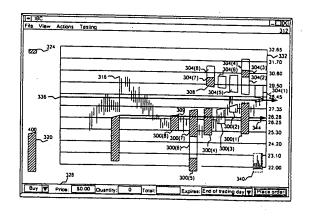
(Continued)

Primary Examiner—Charles R. Kyle (74) Attorney, Agent, or Firm—McDonnell Boehnen Hulbert & Berghoff LLP

(57) ABSTRACT

A user interface for an electronic trading exchange is provided which allows a remote trader to view in real time bid orders, offer orders, and trades for an item, and optionally one or more sources of contextual data. Individual traders place orders on remote client terminals, and this information is routed to a transaction server. The transaction server receives order information from the remote terminals, matches a bid for an item to an offer for an item responsive to the bid corresponding with the offer, and communicates outstanding bid and offer information, and additional information (such as trades and contextual data) back to the client terminals. Each client terminal displays all of the outstanding bids and offers for an item, allowing the trader to view trends in orders for an item. A priority view is provided in which orders are displayed as tokens at locations corresponding to the values of the orders. The size of the tokens reflects the quantity of the orders. An alternate view positions order icons at a location which reflects the value and quantity of the order. Additionally, contextual data for the item is also displayed to allow the trader to consider as much information as possible while making transaction decisions. A pit panel view is also provided in which traders connected to the pit are represented by icons, and are displayed corresponding to an activity level of the trader.

35 Claims, 11 Drawing Sheets



UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

PATENT NO. : 7,212,999 B2 Page 2 of 9

APPLICATION NO.: 09/289,550

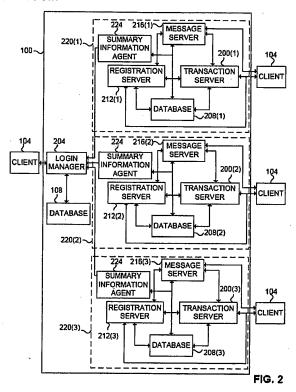
ISSUE DATE

: May 1, 2007

INVENTOR(S)

Richard W. Friesen et al.

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:



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UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

Page 3 of 9

: 7,212,999 B2

APPLICATION NO.: 09/289,550

ISSUE DATE

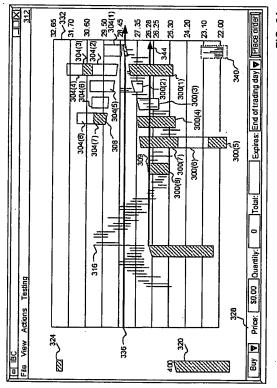
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Page __4__ of __9_

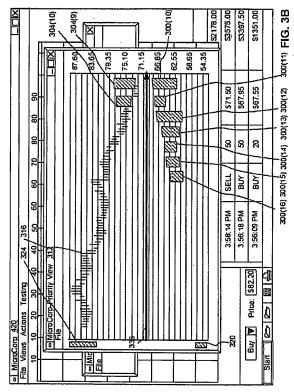
PATENT NO. : 7,212,999 B2

APPLICATION NO.: 09/289,550 **ISSUE DATE** : May 1, 2007

INVENTOR(S)

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Page <u>5</u> of <u>9</u>

APPLICATION NO.: 09/289,550

: 7,212,999 B2

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09/209,550

ISSUE DATE

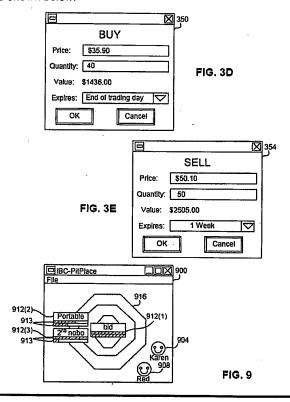
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: Richard W. Friesen et al.

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UNITED STATES PATENT AND TRADEMARK OFFICE **CERTIFICATE OF CORRECTION**

6 of 9

PATENT NO. : 7,212,999 B2

APPLICATION NO.: 09/289,550

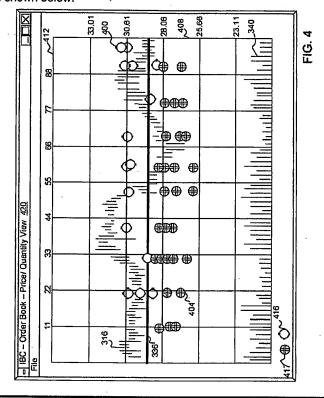
ISSUE DATE

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INVENTOR(S)

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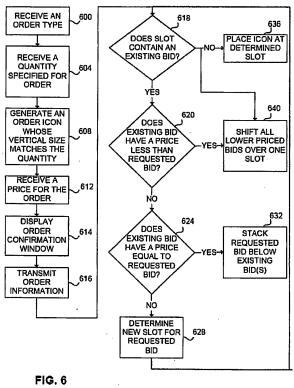
Page _ 7 _ of _ 9 _

PATENT NO. : 7,212,999 B2 APPLICATION NO.: 09/289,550

ISSUE DATE : May 1, 2007

INVENTOR(S) : Richard W. Friesen et al.

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:



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Page 8 of 9

PATENT NO.

: 7,212,999 B2

APPLICATION NO.: 09/289,550

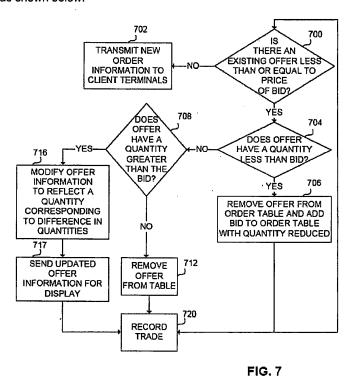
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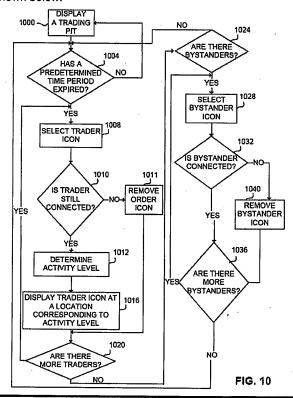
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	00/00/40	Р	aper No.:
DATE	08/28/10	 	
TO SPE OF	: ART UNIT		
SUBJECT	: Request for Certificate of Correc	ction for Appl. No.: <u>09289550</u> Patent No.:	7212999
Please resp	ond to this request for a cer	tificate of correction within 7 days.	
FOR IFW FI	LES:		
the IFW app		corrections as shown in the COCIN doc atter should be introduced, nor should the	
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FOR PAPER	R FILES:		
		corrections as shown in the attached ce see below) and forward it with the file to	
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PTOL-306 (REV. 7/03)

UNITED STATES PATENT AND TRADEMARK OFFICE (Attorney Docket No. 03-1106)

IN THE APPL	ICATION OF:)	
	Friesen et al.)	
Serial No.:	09/289,550) Examiner:	Hani M. Kazimi
Filed:	April 9, 1999) Group Art Unit:	3691
U.S. Patent:	7,212,999 issued May 1, 2007) Conf. No.:	8747
Title:	User Interface for an Electronic Trading System)))	

REQUEST FOR CERTIFICATE OF CORRECTION PURSUANT TO 37 C.F.R. § 1.323

Attn: Certificate of Correction Branch Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450

Sir:

Pursuant to 37 C.F.R. §1.323, the Assignee of Record, Trading Technologies International, Inc., requests issuance of a Certificate of Correction to correct mistakes of clerical, typographical nature and of minor character in the above-identified Patent. The corrections are as follows:

Column 6, line 41: please delete "\$29.50" and insert --slightly less than \$27.35--.

Column 10, line 10: please delete "value/quality" and insert --value/quantity--.

Column 10, line 12: please delete "quality" and insert -- quantity--.

Claim 34, column 16, lines 17-18: please delete "of plurality of" and insert --of the plurality of--.

Please replace Figures 2, 3A, 3B, 3D, 3E, 4, 6, 7, 9, and 10 with the attached Replacement Sheets. The Assignee submits that no new matter would be added by the requested replacement of these Figures, in that all of the changes are supported by the original application as filed. For clarity, the Assignee points out that some of the changes to the Figures correct errors that were made during the preparation and filing of Formal Drawings. In other cases, the Figures are being amended for consistency with

the specification. Such changes include typographical errors, arrow directions, and

incorrect reference numbers, as examples. For the Office's convenience, the Assignee

is providing herewith a set of Annotated Sheets, which point out each correction being

made in the Replacement Sheets.

As stated above, the Assignee respectfully submits that the requested corrections would

not add new matter, nor would they require substantive examination of the file.

Consideration of this Request and issuance of the Certificate of Correction are

respectfully requested. The Assignee submits herewith a completed Certificate of Correction

Form (PTO/SB/44), as well as the fee set forth in 37 C.F.R. §1.20(a). No additional fees are

believed due in connection with this Request; however, the Assignee hereby authorizes the

Patent Office to charge any underpayment, and to credit any overpayment, to Deposit Account

No. 13-2490.

If there are any questions or comments regarding this request, the Examiner is

encouraged to contact the undersigned attorney as indicated below.

Respectfully submitted,

Date: <u>June 16, 2010</u>

By: /Jori R. Fuller/ Jori R. Fuller

Reg. No. 57,628

McDonnell Boehnen Hulbert & Berghoff LLP

300 South Wacker Drive Chicago, IL 60606

Telephone: 312-913-0001 Facsimile: 312-913-0002

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UNITED STATES PATENT AND TRADEMARK OFFICE

	CERTIFICATE OF CORRECTION				
APPLICATION NO.: ISSUE DATE : INVENTOR(S) : It is certified	7,212,999 B2 09/289,550 May 1, 2007 Richard W. Friesen, et al. d that an error appears or errors appear in the above-identified patent and the das shown below:	Page _			
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: 7,212,999 B2

APPLICATION NO.: 09/289,550

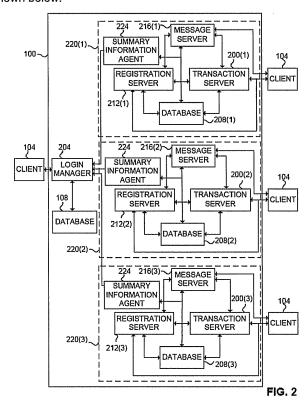
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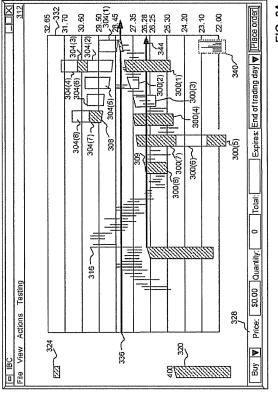
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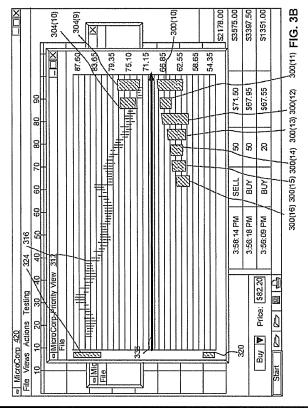
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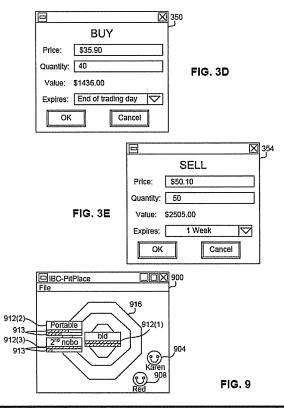
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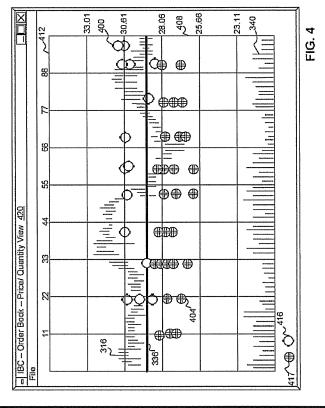
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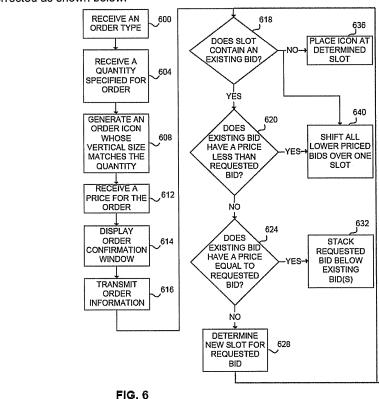
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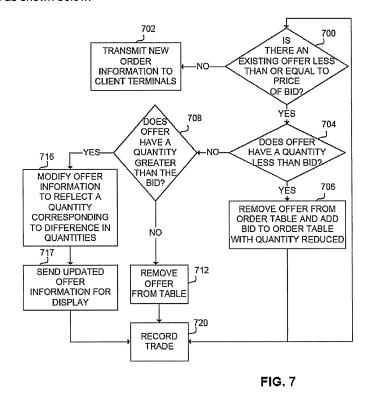
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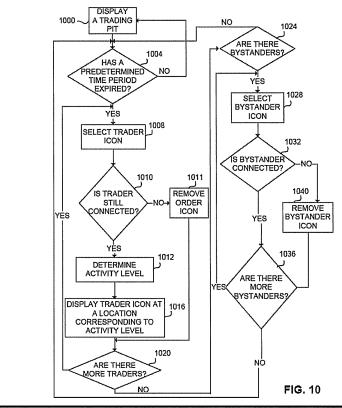
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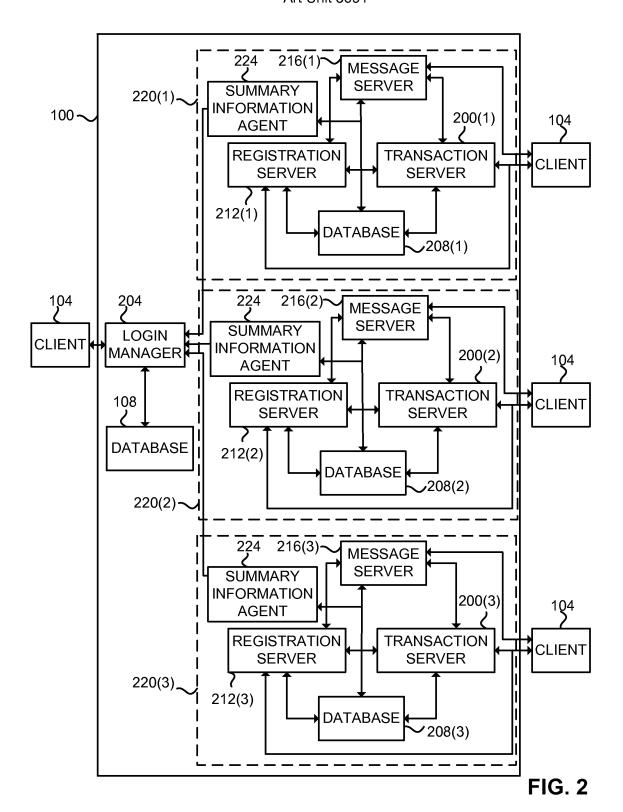


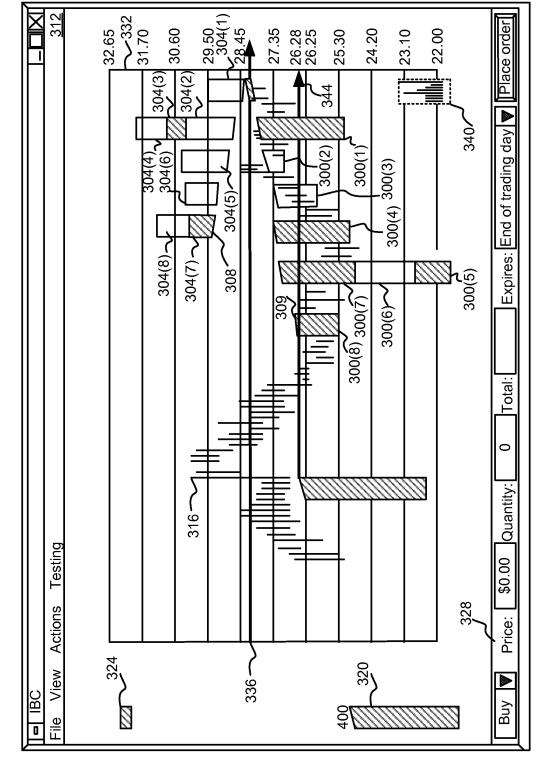
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Replacement Sheet 7,212,999 Art Unit 3691





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Replacement Sheet

300(11) FIG. 3B

300(16) 300(15) 300(14) 300(13) 300(12)

39

Replacement Sheet 7,212,999 Art Unit 3691

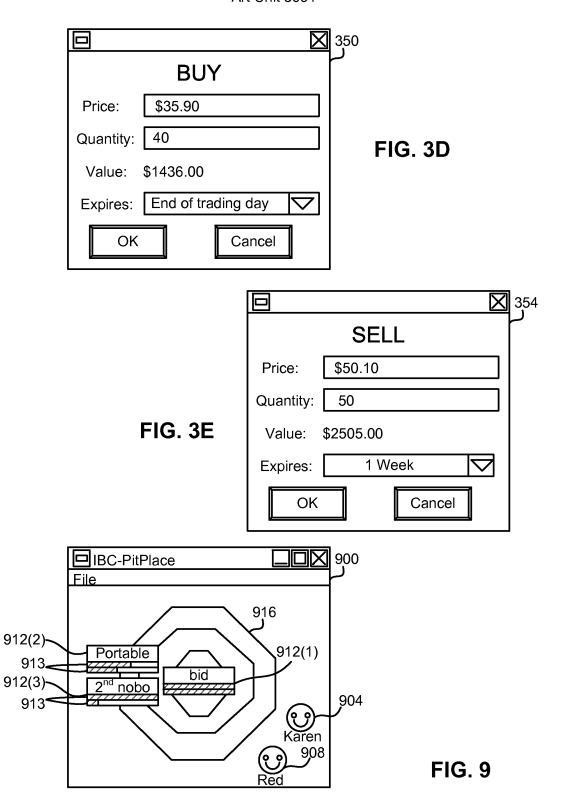


FIG. 4

33.01 25.66 30.61 28.06 23.11 408 340 400 **#** 99 \oplus 55 $\oplus \oplus$ **#** IBC - Order Book - Price/ Quantity View 420 4 **₩** 22 316 336 Eile

41

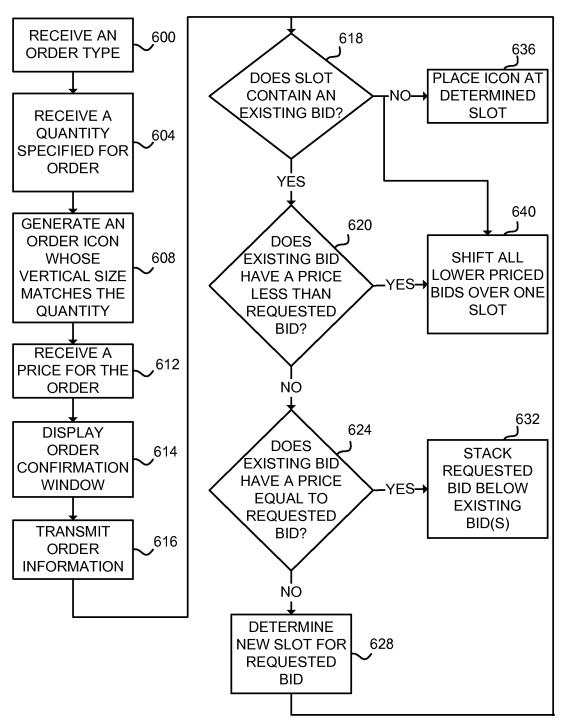


FIG. 6

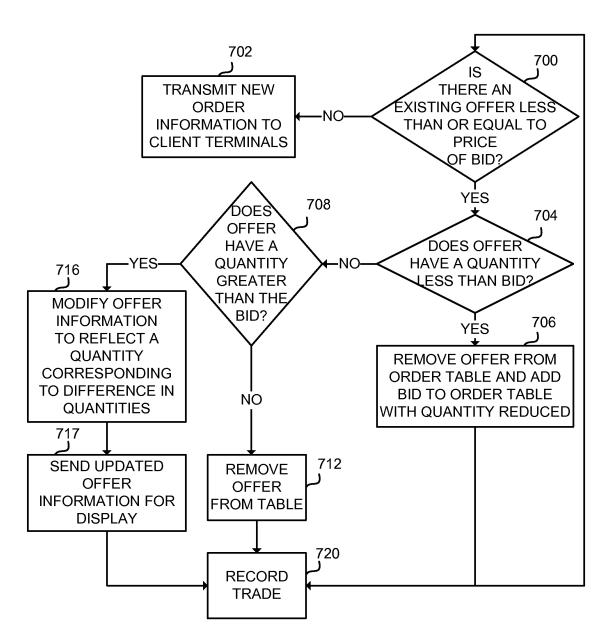
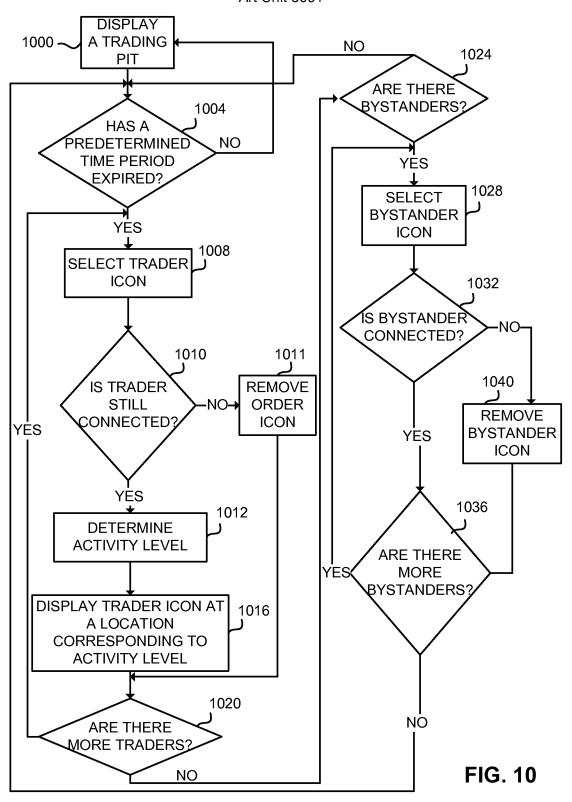


FIG. 7



Annotated Sheet 7,212,999 Art Unit 3691

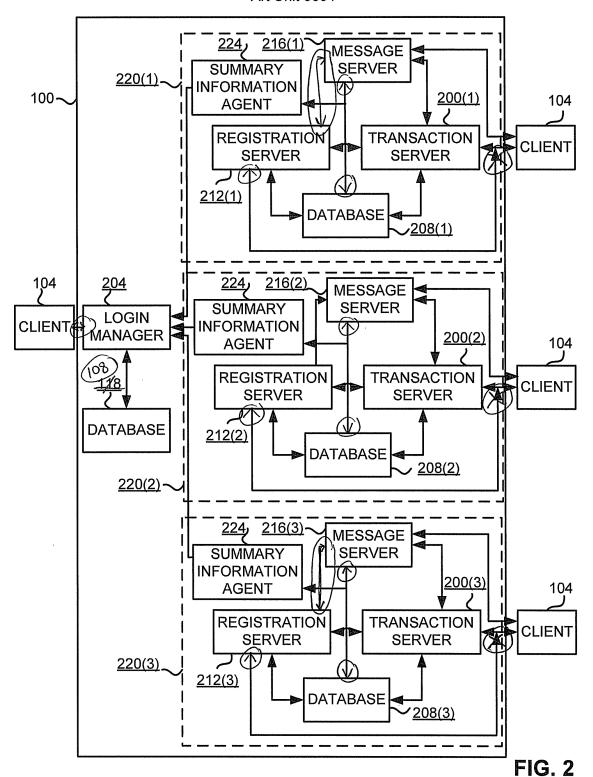
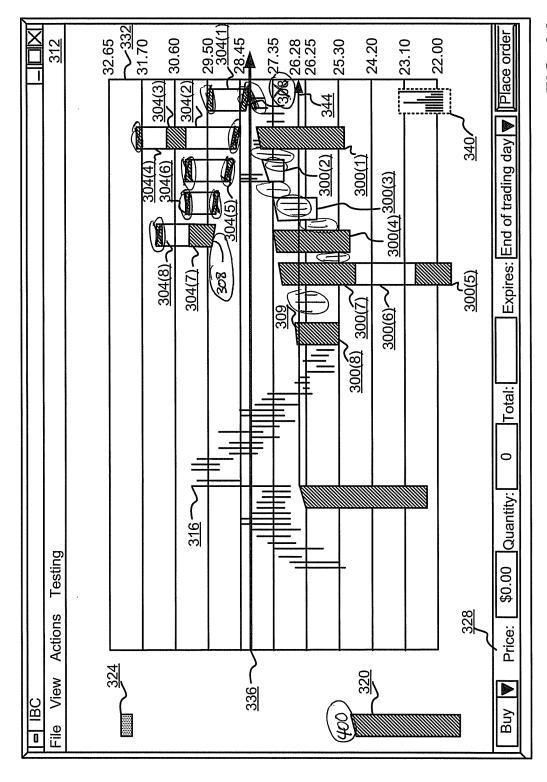
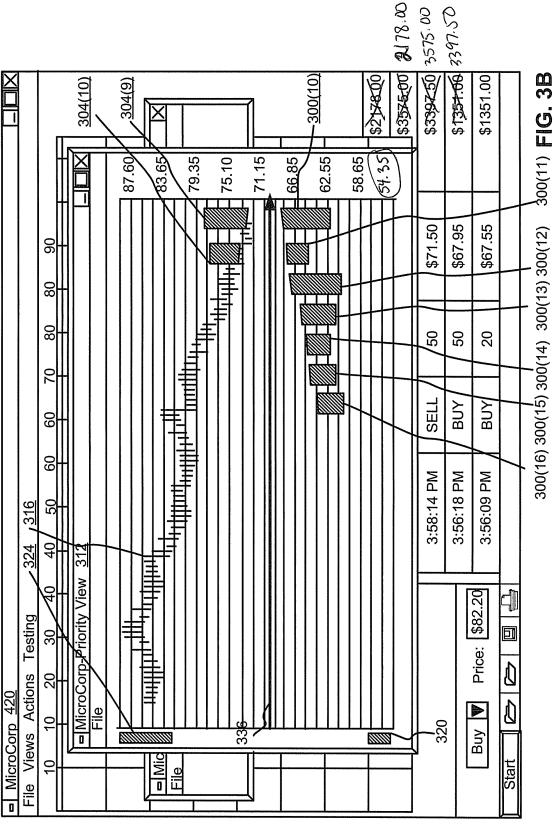


FIG. 3A

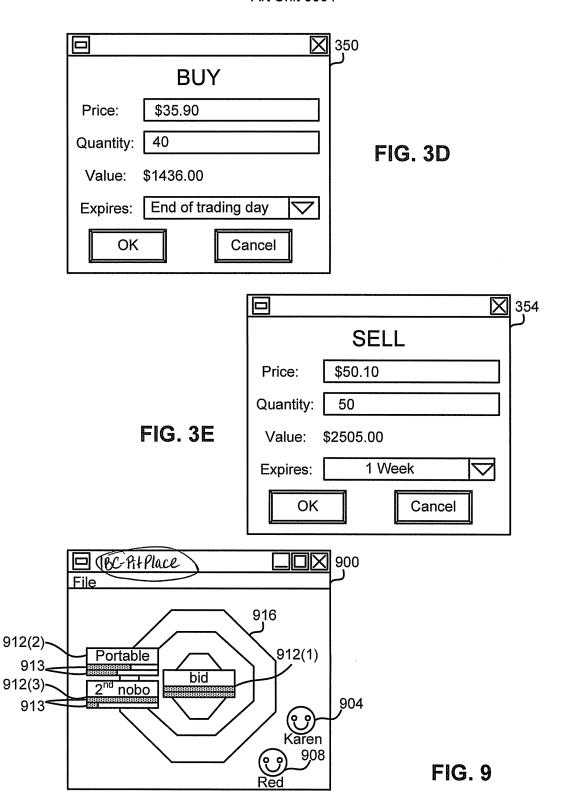


Annotated Sheet 7,212,999 Art Unit 3691

Annotated Sheet 7,212,999 Art Unit 3691 ,316 324 Testing



Annotated Sheet 7,212,999 Art Unit 3691



Annotated Sheet 7,212,999 Art Unit 3691

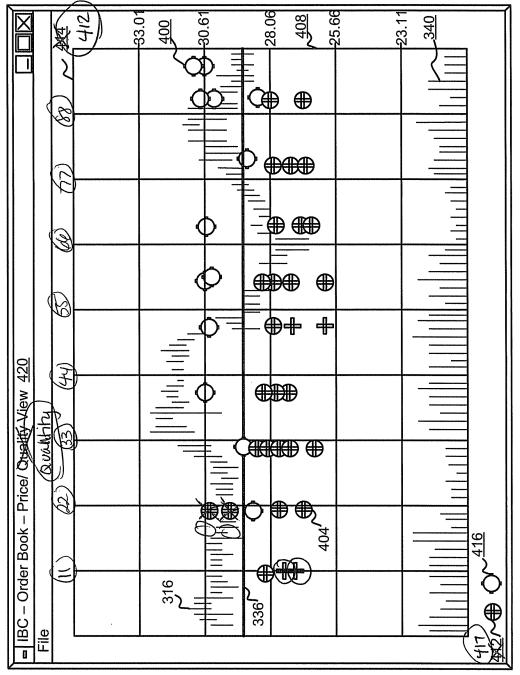


FIG. 4

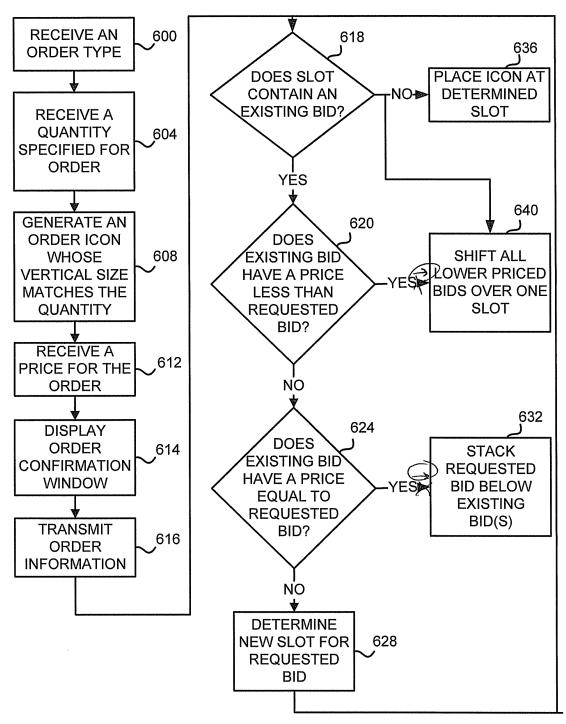


FIG. 6

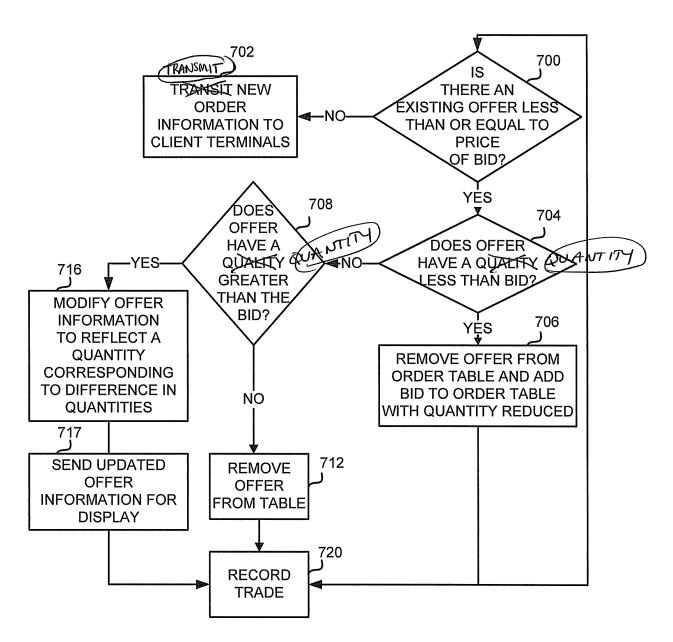
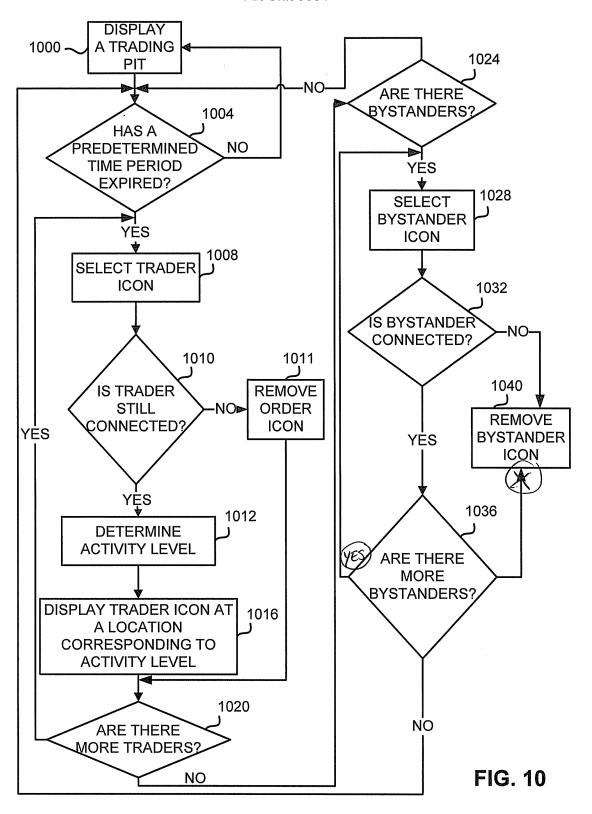


FIG. 7

Annotated Sheet 7,212,999 Art Unit 3691



Electronic Patent Application Fee Transmittal						
Application Number:	092	09289550				
Filing Date:	09-	09-Apr-1999				
Title of Invention:	USER INTERFACE FOR AN ELECTRONIC TRADING SYSTEM				1	
First Named Inventor/Applicant Name:	RICHARD W. FRIESEN					
Filer:	Jor	i Rebecca Fuller				
Attorney Docket Number:	set Number: 03-1106					
Filed as Large Entity						
Utility under 35 USC 111(a) Filing Fees						
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:						
Certificate of correction		1811	1	100	100	
Extension-of-Time:						

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
	Tot	al in USD	(\$)	100

Electronic Acknowledgement Receipt				
EFS ID:	7823265			
Application Number:	09289550			
International Application Number:				
Confirmation Number:	8747			
Title of Invention:	USER INTERFACE FOR AN ELECTRONIC TRADING SYSTEM			
First Named Inventor/Applicant Name:	RICHARD W. FRIESEN			
Customer Number:	39310			
Filer:	Jori Rebecca Fuller			
Filer Authorized By:				
Attorney Docket Number:	03-1106			
Receipt Date:	16-JUN-2010			
Filing Date:	09-APR-1999			
Time Stamp:	11:37:53			
Application Type:	Utility under 35 USC 111(a)			

Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$100
RAM confirmation Number	8799
Deposit Account	132490
Authorized User	

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 1.20 (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 Certificate of Correction	03-1106_Request.pdf	68313	no	2
·			88196cb2b29557c57f8e97307b975ae98af3 4708		
Warnings:					
Information:					
2	Request for Certificate of Correction	03-1106_Certificate.pdf	1049117	no	9
		6b842b0cb161174dbb536e3f3aa82c32cc0 b938e			
Warnings:					
Information:					
3	Drawings-only black and white line	03-1106_Replacement_Figures.	92298	no	8
	drawings	pdf	ea6d81ddc28d64ec1ab56c711bb89f28587 4db78		
Warnings:					
Information:					
4	Drawings-only black and white line	03-1106_Annotated_Figs.pdf	925187	no	8
	drawings		7af62b786700f3d09f6a2cd50df3f4c5f1251 2d2		
Warnings:					
Information:					
5	Fee Worksheet (PTO-875)	fee-info.pdf	30078	no	2
		<u>'</u>	3ff9c4db1d4222e7d921ccadf9213da28af0 aa86		
Warnings:					
Information:					
		Total Files Size (in bytes)	21	64993	

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.

TO:				
COMMISSIONER OF PATENTS AND TRADEMARKS (USPTO) P.O. Box 1450 Alexandria, VA 22313-1450		REPORT ON THE FILING OF DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK		
In compliance with 35 U.S.C. that a court action has been file	290 and/or 15 U.S.C. 1 ed on the following pate	116 you are he ent(s)/tradema	nereby advised rk(s) in the U.S. District Court:	
DOCKET NO. 10-cv-00931	DATE FILED: 3/9/2010	NORTHER	NITED STATES DISTRICT COURT, ORTHERN DISTRICT OF ILLINOIS, ASTERN DIVISION	
Plaintiff(s): Trading Technologies International, Inc.	Defendant(s): TradeHelm, Inc.			
PATENT NUMBER	DATE OF PAT	ENT	HOLDER OF PATENT OR TRADEM	íARK
On Next Page				
62				
7.4				
In the above-entit	led case, the followin	g trademarks	s(s) have been included:	
DATE INCLUDED	INCLUDED BY			
	[] Amendment	[] Answer	[] Cross Bill [] Other Pleading	
TRADEMARK NUMBER	DATE OF TRADE	EMARK	HOLDER OF PATENT OR TRADEM	IARK
1.				
2.				
3.	·			
In the above-entitle	d case, the following deci	sion has been re	endered or judgment issued	
DECISION/JUDGMENT:				
CLERK - MICHAEL W. DOBBINS	DEPUTY CLERK:		DATE:	

March 10, 2010

/s/ Brenda Rinozzi

PATENT NUMBER	DATE OF PATENT	HOLDER OF PATENT OR TRADEMARK
6,766,304	Jul. 20, 2004	Gary Allan Kemp, II
	:	Jens-Uwe Schluetter
		Harris Brumfield
6,772,132	Aug. 3, 2004	Gary Allan Kemp, II
		Jens-Uwe Schluetter
		Harris Brumfield
7,212,999 —	May 1, 2007	Richard W. Friesen
		Peter C. Hart
7,533,056	May 12, 2009	Richard W. Friesen
	1	Peter C. Hart
7,676,411	Mar. 9, 2010	Gary Allen Kemp, II
		Jens-Uwe Schluetter
	1	Harris Brumfield

AO 121 (6/90)				
TO:				
COMMISSIONER OF PATENTS AND TRADEMARKS (USPTO) P.O. Box 1450 Alexandria, VA 22313-1450		REPORT ON THE FILING OF DETERMINATION OF AN ACTION OR APPEAL REGARDING A COPYRIGHT		
In compliance with the Act of Ju that a court action has been filed				
DOCKET 10-cv-718	DATE FILED 2/3/2010	UNITED STATES DISTRICT COURT, NORTHERN DISTRICT OF ILLINOIS, EASTERN DIVISION		
PLAINTIFF Trading Technologies Internatio	1			
PATENT NO.	DATE OF PAT	TENT	PATENTEE	
7,127,424 \	10/4/200)6	Frading Technologies	
7,212,999	5/1/2007	,	Frading Technologies	
7,533,056	5/12/200	9	Frading Technologies	
	 			
In the above-entitled case, the	e following patent(s) ha	ave been include	d:	
DATE INCLUDED	[] Amendment [Answer []	Cross Bill [] Other Pleading	
PATENT NO.	DATE OF PATE	ENT	PATENT	
In the above-entitled case, the	following decision has be	en rendered or jud	dgment issued:	
DECISION/JUDGMENT				
CLERK	(BY) DEPUTY CLEI	RK	DATE	
Michael W. Dobbins	Kinielle Johnson		February 4, 2010	

AO 121 (6/90)

то:				· · · · · · · · · · · · · · · · · · ·
COMMISSIONER OF PATENTS AND TRADEMARKS (USPTO) P.O. Box 1450 Alexandria, VA 22313-1450		REPORT ON THE FILING OF DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK		
In compliance with 35 U.S that a court action has been				
DOCKET NO. 10-cv-00721	DATE FILED: 2/3/2010	NORTHE	STATES DISTRICT COURT, ERN DISTRICT OF ILLINOIS, N DIVISION	
Plaintiff(s): Trading Technologies International, Inc.	Defendant(s): IBG LLC et al			
PATENT NUMBER	DATE OF PA	TENT.	HOLDER O	OF PATENT OR TRADEMARK
On Next Page D.2				
In the above-e	entitled case, the followi	ng trademarks	(s) have bee	n included:
DATE INCLUDED	INCLUDED BY [] Amendment	[] Answer	[] Cross Bill	[] Other Pleading
TRADEMARK NUMBER	DATE OF TRAI	DEMARK	HOLDER O	F PATENT OR TRADEMARK
1.				
2.				
3.				
In the above-en	titled case, the following dec	cision has been re	ndered or judg	ment issued
DECISION/JUDGMENT:				
CLERK - MICHAEL W. DOBBI	NS DEPUTY CLERK:		DATE:	

February 4, 2010

/s/ Brenda Rinozzi

PATENT NUMBER	DATE OF PATENT	HOLDER OF PATENT OR TRADEMARK
6,766,304	7/20/2004	Gary Allan Kemp, II Jens-Uwe Schluetter Harris Brumfield
6,772,132	8/3/2004	Gary Allan Kemp, II Jens-Uwe Schluetter Harris Brumfield
7,212,999	5/1/2007	Richard W. Friesen Peter C. Hart
7,412,416	8/12/2008	Richard W. Friesen Peter C. Hart
7,533,056	5/12/2009	Richard W. Friesen Peter C. Hart

то:	
COMMISSIONER OF PATENTS AND TRADEMARKS (USPTO) P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OF DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK

In compliance with 35 U.S.C. 290 and/or 15 U.S.C. 1116 you are hereby advised that a court action has been filed on the following patent(s)/trademark(s) in the U.S. District Court:

DOCKET NO. 10cv720	NORTH		NORTHE	STATES DISTRICT COURT, ERN DISTRICT OF ILLINOIS, N DIVISION	
PLAINTIFFS	-L		······································		
Trading Technologies International, Inc.		Futi	ırePath Trad	ling, LLC	
TRADEMARK NUMBER	DATE OF TRADEM		EMARK	HOLDER OF PATENT OR TRADEMARK	
7,212,999	5/1/2007			Richard W. Friesen & Peter C. Hart	
7,412,416	8/12	/2008		Richard W. Friesen & Peter C. Hart	
7,533,056	5/12/2009			Richard W. Friesen & Peter C. Hart	

In the above-entitled case, the following trademarks(s) have been included:

DATE INCLUDED	INCLUDED BY [] Amendment [] Answer	[] Cross Bill [] Other Pleading
TRADEMARK NUMBER	DATE OF TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1.		
2.		
3.		

In the above-entitled case, the following decision has been rendered or judgment issued:

DECISION/JUDGMENT:		
CLERK	(BY) DEPUTY CLERK:	DATE:
MICHAEL W. DOBBINS	/s/ Elisa Perez	February 5, 2010

AO 121 (6/90)					
TO:					· · · · · · · · · · · · · · · · · · ·
COMMISSIONER OF PATENTS AND TRADEMARKS (USPTO) P.O. Box 1450 Alexandria, VA 22313-1450		REPORT ON THE FILING OF DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK			
In compliance with 35 that a court action has been file					
DOCKET NO.	DATE FILED: UNITED S		STATES DISTRICT COURT, RN DISTRICT OF ILLINOIS,		
10 C 885	2/9/10]	EASTERN	DI	VISION
Plaintiff(s): Trading Technologies International, Inc.	Defendant(s): Open E Cry, LLC	C, eta	al.,		
TRADEMARK NUMBER	DATE OF TR	RADE	MARK	но	LDER OF PATENT OR TRADEMARK
6,766,304	7/20/04		ļ	Trac	ling Technologies
6,772,132	8/3/04			Trading Technologies	
7,212,999	5/1/07			Trading Technologies	
7,533,056	 		Trac	ling Technologies	
In the above-entit	led case, the follow	wing	g trademarks	s(s) h	ave been included:
DATE INCLUDED	INCLUDED BY [] Amendment	Į] Answer	[]	Cross Bill [] Other Pleading
TRADEMARK NUMBER	DATE OF TR	ADE	MARK	нс	LDER OF PATENT OR TRADEMARK
1.					
2.					
3.					
In the above-entitled case, the following decision has been rendered or judgment issued:					
DECISION/JUDGMENT					
CLERK - MICHAEL W. DOBBINS	DEPUTY CLERK	ζ;			DATE:
	/s/ Sheila M	100re			2/10/10

AO 121 (6/90)			
TO:			
Commissioner of Patents and P.O. Box 1450 Alexandria, VA 22313-1450 In compliance with the Acthat a court action has been filed or	et of July 19, 1952	2 (66 Stat. 814; 35	REPORT ON THE TERMINATION OF AN ACTION OR APPEAL REGARDING A COPYRIGHT U.S.C. 290) you are hereby advised
DOCKET 10cv884	DATE FILED		TES DISTRICT COURT, NORTHERN DISTRICT
	02/9/10		, EASTERN DIVISION
PLAINTIFF		DEFENDANTS	
Trading Technologies Internation	nal, Inc.	TradeStation Se	curities, Inc., and TradeStation Group,
PATENT NO.	DATE O	F PATENT	PATENTEE
6,766,304	July 20, 2004		Trading Technologies
6,772,132	August 3, 2004	1	Trading Technologies
7,212,999	May 1, 2007		Trading Technologies
7,533,056	May 12, 2009		Trading Technologies
In the above-entitled	case, the followin	ng patent(s) have l	peen included:
DATE INCLUDED	INCLUDED BY [] Amendme	ent [] Answer	[] Cross Bill [] Other Pleading
PATENT NO.	DATE OF	FPATENT	PATENTEE
1			
2			
In the above-entitled case, the	e following decisio	n has been rendere	d or judgment issued:
DECISION/JUDGMENT			
CLERK MICHAEL W. DOBBINS	(BY) DEPUT	I.	DATE 02/10/2010

Copy 1 - Upon initiation of action, mail this copy to Commissioner Copy 3 - Upon termination of action, mail this copy to Commissioner Copy 2 - Upon filing document adding patent(s), mail this copy to Commissioner Copy 4 - Case file copy

AO 121 (6/90)

TO:	
COMMISSIONER OF PATENTS AND TRADEMARKS (USPTO) P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OF DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK

In compliance with 35 U.S.C. 290 and/or 15 U.S.C. 1116 you are hereby advised that a court action has been filed on the following patent(s)/trademark(s) in the U.S. District Court:

DOCKET NO. 10-cv-00931	DATE FILED: 2/11/2010	UNITED STATES DISTRICT COURT, NORTHERN DISTRICT OF ILLINOIS, EASTERN DIVISION	
Plaintiff(s): Trading Technologies International, Inc.	Defendant(s): TradeHelm, Inc.		
PATENT NUMBER	DATE OF P	ATENT	HOLDER OF PATENT OR TRADEMARK
On Next Page 2			

In the above-entitled case, the following trademarks(s) have been included:

DATE INCLUDED	INCLUDED BY	
	[] Amendment [] Answer	[] Cross Bill [] Other Pleading
TRADEMARK NUMBER	DATE OF TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1.		
2.		
3.		

In the above-entitled case, the following decision has been rendered or judgment issued

DECISION/JUDGMENT:			
CLERK - MICHAEL W. DOBBINS	DEPUTY CLERK:	DATE:	
	/s/ Brenda Rinozzi	February 11, 2010	

PATENT NUMBER	DATE OF PATENT	HOLDER OF PATENT OR TRADEMARK
6,766,304	Jul. 20, 2004	Gary Allan Kemp, II Jens-Uwe Schluetter Harris Brumfield
6,772,132	Aug. 3, 2004	Gary Allan Kemp, II Jens-Uwe Schluetter Harris Brumfield
7,212,999	May 1, 2007	Richard W. Friesen Peter C. Hart
7,533,056	May 12, 2009	Richard W. Friesen Peter C. Hart

то:	
COMMISSIONER OF PATENTS AND TRADEMARKS (USPTO) P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OF DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK

In compliance with 35 U.S.C. 290 and/or 15 U.S.C. 1116 you are hereby advised that a court action has been filed on the following patent(s)/trademark(s) in the U.S. District Court:

DOCKET NO. 10-cv-883	DATE FILED 2/9/2010		STATES DISTRICT COURT, NORTHERN T OF ILLINOIS, EASTERN DIVISION
PLAINTIFF: Trading-Technologies-Interna	tional, Inc.	DEFENDAN thinkorswim	TS: Group, Inc., et.al
TRADEMARK NUMBER	DATE OF	TRADEMARK	HOLDER OF PATENT OR TRADEMARK
6,766,304	7/20/04		Trading Technologies International, Inc.
6,772,132	8/3/04		Trading Technologies International, Inc.
7,212,999	5/1/07		Trading Technologies International, Inc.
7,533,056	5/12/09		Trading Technologies International, Inc.

In the above-entitled case, the following trademarks(s) have been included:

DATE INCLUDED	INCLUDED BY [] Amendment [] Answer	[] Cross Bill [] Other Pleading
TRADEMARK NUMBER	DATE OF TRADEMARK	HOLDER OF PATENT OR TRADEMARK

In the above-entitled case, the following decision has been rendered or judgment issued:

DECISION/JUDGMENT		
CLERK	(BY) DEPUTY CLERK:	DATE:
MICHAEL W. DOBBINS	Gwen Rosegay	February 11, 2010

	· ·				
то:					
COMMISSIONER OF PATENTS AND TRADEMARKS (USPTO) P.O. Box 1450 Alexandria, VA 22313-1450		REPORT ON THE FILING OF DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK			
In compliance with a that a court action has been f	35 U.S.C. 290 and/or 1: iled on the following p	5 U.S.C. 1116 gatent(s)/tradema	you are hereby advised ark(s) in the U.S. District Court:		
DOCKET NO. 10C929	DATE FILED : 02/10/2010				
Plaintiff(s) Trading Technologies International, Inc.	Defendant(s): Rosenthal Collins Group, LLC				
TRADEMARK NUMBER	DATE OF TRADEMARK		HOLDER OF PATENT OR TRADEMARK		
7,212,999	05/01/2007		Trading Technologies International, Inc.		
7,533,056	05/12/2009		Trading Technologies International, Inc.		
7,587,357	09/08/2009		Trading Technologies International, Inc.		
7,613,651	11/03/2009		Trading Technologies International, Inc.		
In the above-en	titled case, the follow	ring trademark	s(s) have been included:		
DATE INCLUDED	INCLUDED BY [] Amendment	[] Answer	[] Cross Bill [] Other Pleading		
TRADEMARK NUMBER	DATE OF TRADEMARK		HOLDER OF PATENT OR TRADEMARK		
1.					
2.					
In the above-entitled of	case, the following de	cision has bee	n rendered or judgment issued:		
DECISION/JUDGMENT					
CLERK - MICHAEL W. DOBBINS	DEPUTY CLEI	RK:	DATE:		
N.	9/1 M	55	2/11/10		



39310

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE UNITED STATES IDEFARIMENT OF A COMMUNICATION OF THE ADDRESS OF A COMMUNICATION OF PATENTS PARENTS PARE

APPLICATION NUMBER

CHICAGO, IL 60606

FILING OR 371(C) DATE

FIRST NAMED APPLICANT

ATTY. DOCKET NO./TITLE

09/289,550

04/09/1999

RICHARD W. FRIESEN

3854 **CONFIRMATION NO. 8747**

POA ACCEPTANCE LETTER

MBHB/TRADING TECHNOLOGIES 300 SOUTH WACKER DRIVE **SUITE 3200**

Date Mailed: 04/27/2009

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 04/20/2009.

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.

/lvongxay/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

PTO/SB/80 (11-08)
Approved for use through 11/30/2011. OMB 0651-0035
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 displays a valid OMB control number.

POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby 37 CFR 3		revious powers of attorney	given in the appli	cation identified in	the attached state	ment under	
I hereby							
√ Prac	titioners assoc	ciated with the Customer Number:		39310			
OR			<u> </u>				
Prac	titioner(s) nam	ned below (if more than ten patent	practitioners are to be	e named, then a custom	ner number must be us	ed):	
				Registration Number			
			Number			NUITIDE	
 							
·····							
_							
		to represent the undersigned before					
		ations assigned <u>only</u> to the undersing coordance with 37 CFR 3.73(b).	gned according to the	e USPTO assignment re	ecords or assignment of	locuments	
		spondence address for the applicat	tion identified in the a	ittached statement unde	er 37 CFR 3.73(b) to:		
		The second secon]		
The address associated with Customer Number:							
OR '	no address ac	sociated with outletter realizer.			J		
Fim	n or vidual Name						
Address	viduai Nailie						
City			State		Zip		
			State	State		ΖΙΡ	
Country							
Telephon	е			Email			
Anaicass	Jame end Add	road					
	Name and Add						
		es International, Inc. Plaza, Suite 1100					
	Illinois 606						
		together with a statement un ion in which this form is use					
the pract	itioners app	ointed in this form if the app	ointed practition	er is authorized to a			
and mus	t identify the	application in which this Po			w.w		
SIGNATURE of Assignee of Record The individual whose signature and title is supplied below is authorized to act on behalf of the assignee							
Signature	1 NO	in CCC	1	D	Pate 3-24-0	59	
Name	1500,	Steven F. Bo	rsand	T	elephone (312-4	76-1000	
Title		Executive	e Vice President,	Intellectual Proper	ty		
This collection	on of information	is required by 37 CFR 1.31, 1.32 and	1.33. The information is	s required to obtain or retai	in a benefit by the public	which is to file (and	

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 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.

STATEMENT UNDER 37 CFR 3.73(b)					
Applicant/Patent Owner: Friesen et al.					
Application No./Patent No.: 7,212,999 Filed/Issue Date: May 1, 2007					
itled: User Interface for an Electronic Trading System					
rading Technologies International, Inc, acorporation					
(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.					
states that it is:					
. X the assignee of the entire right, title, and interest in;					
an assignee of less than the entire right, title, and interest in (The extent (by percentage) of its ownership interest is%); or					
the assignee of an undivided interest in the entirety of (a complete assignment from one of the joint inventors was made)					
he patent application/patent identified above, by virtue of either:					
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 014849, Frame 0166, or for which a copy therefore is attached.					
DR 3. A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:					
1. 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.					
2. 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.					
3. From: To:					
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Additional documents in the chain of title are listed on a supplemental sheet(s).					
As required by 37 CFR 3.73(b)(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>i.e.</i> , a true copy of the original assignment document(s)) must be submitted to Assignment Division i accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. <u>See</u> MPEP 302.08]					
The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.					
Jori R. Fuller/ April 20, 2009					
Signature Date					
ori R. Fuller Attorney					
Printed or Typed Name Title					

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.**

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:

- 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.
- 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,
- 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.
- 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 Ack	knowledgement Receipt			
EFS ID:	5179842			
Application Number:	09289550			
International Application Number:				
Confirmation Number:	8747			
Title of Invention:	USER INTERFACE FOR AN ELECTRONIC TRADING SYSTEM			
First Named Inventor/Applicant Name:	RICHARD W. FRIESEN			
Correspondence Address:	Mr. Steven Borsand Vice President Intellectual Property 222 South Riverside Plaza, Suite 1100 Trading Technology International, Inc. Chicago IL 60606 US -			
Filer:	Jori Rebecca Fuller			
Filer Authorized By:				
Attorney Docket Number:	3854			
Receipt Date:	20-APR-2009			
Filing Date:	09-APR-1999			
Time Stamp:	11:47:18			
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	Power of Attorney	1 Power of Attorney 03-1106 POA.pd		149398	no	1
·			cc18d9d1f58f11227b0e83782f84a2d953e4 db55			
Warnings:						
Information:						
2	Assignee showing of ownership per 37	03-1106 Statement.pdf	418386	no	2	
-	CFR 3.73(b).		74eScd14e66be69be57b45651ae379d391 249467	5		
Warnings:						
Information:						
		Total Files Size (in bytes)	56	57784		

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.

UNITED STATES PATENT AND TRADEMARK OFFICE **CERTIFICATE OF CORRECTION**

PATENT NO.

: 7,212,999 B2

Page 1 of 1

DATED

APPLICATION NO.: 09/289550

INVENTOR(S)

: May 1, 2007 : Friesen et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 1, line 22, replace "before-the rest" with --before the rest--

Column 7, line 28, replace "bide and offer" with --bids and offers--

Column 11, line 21, replace "onto the existing order" with --onto the existing order--

Signed and Sealed this

Eleventh Day of December, 2007

JON W. DUDAS

Director of the United States Patent and Trademark Office





UNITED STATES PATENT AND TRADEMARK OFFICE Case No. 3854

(MBHB Ref. No. 03-1106)

In re th	ne Application of:)	
	Friesen et al.))	Group Art Unit: 3624
Serial	No. 09/289,550)	Examiner: Kyle
Filed:	April 9, 1999)	
For:	User Interface for an Electronic Trading System)	
	TRANS	MITTAL LE	TTER

Attn: Certificate of Correction Branch

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Certificate

Sir:

In regard to the above identified application:

- 1. We are transmitting herewith the attached:
 - a. Request for Certificate of Correction Pursuant to 37 C.F.R. § 1.322;
 - b. Certificate of Correction:
 - c. Return Receipt Postcard.
- 2. With respect to additional fees:
 - No fee is due at this time.
 - Please charge any additional fees or credit overpayment to Deposit Account No.13-2490. A duplicate copy of this sheet is enclosed.
- CERTIFICATE OF MAILING UNDER 37 CFR § 1.8: The undersigned hereby certifies that this Transmittal Letter and the paper, as described in paragraph 1 hereinabove, are being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Attn: Certificate of Correction Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

McDonnell Boehnen Hulbert & Berghoff LLP

Date: October 5, 2007

Joseph A. Herndon Rég. No. 50,469

McDonnell Boehnen Hulbert & Berghoff LLP

300 South Wacker Drive Chicago, Illinois 60606 Telephone: (312) 913-0001 Facsimile: (312) 913-0002

OCT 1 6 2007.



UNITED STATES PATENT AND TRADEMARK OFFICE Case No. 3854

(MBHB Ref. No. 03-1106)

In re th	ne Application of:)	
	Friesen et al.)	Group Art Unit: 3624
Serial	No. 09/289,550)	Examiner: Kyle
Filed:	April 9, 1999)	
For:	User Interface for an Electronic Trading System))	

TRANSMITTAL LETTER

Attn: Certificate of Correction Branch Commissioner for Patents P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

In regard to the above identified application:

- 1. We are transmitting herewith the attached:
 - a. Request for Certificate of Correction Pursuant to 37 C.F.R. § 1.322;
 - b. Certificate of Correction;
 - c. Return Receipt Postcard.
- 2. With respect to additional fees:
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- 3. CERTIFICATE OF MAILING UNDER 37 CFR § 1.8: The undersigned hereby certifies that this Transmittal Letter and the paper, as described in paragraph 1 hereinabove, are being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Attn: Certificate of Correction Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

McDonnell Boehnen Hulbert & Berghoff LLP

Date: October 5, 2007

Joseph A. Herndon Reg. No. 50,469

McDonnell Boehnen Hulbert & Berghoff LLP

300 South Wacker Drive Chicago, Illinois 60606 Telephone: (312) 913-0001 Facsimile: (312) 913-0002

OCT 1 6 2007

PATENT



UNITED STATES PATENT AND TRADEMARK OFFICE Case No. 3854

(MBHB Ref. No. 03-1106)

In re tl	ne Application of:)	
	Friesen et al.)	Group Art Unit: 3624
Serial	No. 09/289,550)	Examiner: Kyle
Filed:	April 9, 1999)	
For:	User Interface for an Electronic Trading System))	

REQUEST FOR CERTIFICATE OF CORRECTION PURSUANT TO 37 C.F.R. § 1.322

Attn: Certificate of Correction Branch Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Dear Sir:

Assignee of Record, Trading Technologies International, Inc.., requests issuance of the accompanying Certificate of Correction pursuant to 35 U.S.C. § 254 and 37 C.F.R. § 1.322(a). The corrections are as follows:

Column 1, line 22, replace "before-the rest" with "before the rest"

Column 7, line 28, replace "bide and offer" with "bids and offers

Column 11, line 21, **replace** "onto the existing ordet" with "onto the existing order"

The Assignee respectfully submits that the requested corrections do not constitute new matter, nor do they require substantive examination of the file. The Assignee also respectfully submits that the above-mentioned errors were mistakes of the Patent and Trademark Office and,

McDonnell Boehnen Hulbert & Berghoff LLP

300 South Wacker Drive Chicago, Illinois 60606 Phone: (312) 913-0001 Facsimile: (312) 913-0002 1

OCT 16 2007

thus, the Assignee believes that no fee is due. If the Examiner believes otherwise, the Assignee authorizes the Commissioner to deduct any fee from the Deposit Account No. 13-2490 pursuant to 37 C.F.R. §§ 1.20(a) and 1.323.

Enclosed is a complete Certificate of Correction for U.S. Patent No. 7,212,999 B2 issued May 1, 2007.

Consideration of this Request and issuance of the Certificate of Correction are respectfully requested.

Respectfully submitted,

Dated: October 5, 2007

Joseph A. Herndon Reg. No. 50,469

OCT 1 6 2007

2

UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

Page <u>1</u> of <u>1</u>

PATENT NO.

: 7,212,999 B2

APPLICATION NO.: 09/289,550

ISSUE DATE:

: May 1, 2007

INVENTOR(S)

: Friesen et al.

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 1, line 22, **replace** "before-the rest" with "before the rest"

Column 7, line 28, replace "bide and offer" with "bids and offers

Column 11, line 21, replace "onto the existing ordet" with "onto the existing order"

MAILING ADDRESS OF SENDER (Please do not use customer number below): McDonnell Boehnen Hulbert & Berghoff LLP 300 South Wacker Drive Chicago, IL 60606

OCT 16 2007

This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. 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 1.0 hour 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: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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American LegalNet, Inc. www.USCourtForms.com



United States Patent and Trademark Office

UNITED STATES DEPARTMENT OF COMMERCE United States Patent and Trademark Office Address: COMMISSIONER FOR PATENTS P.O. Box 1450 Alexandria, Virginia 22313-1450

APPLICATION NO.	ISSUE DATE PATENT NO.		ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/289 550	05/01/2007	7212999	3854	8747

590 04/11/2007

Mr. Steven Borsand Vice President Intellectual Property 222 South Riverside Plaza, Suite 1100 Trading Technology International, Inc. Chicago, IL 60606

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 Customer Service Center of the Office of Patent Publication at (571)-272-4200.

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

RICHARD W. FRIESEN, FAIRFAX, CA; PETER C. HART, SAN RAFAEL, CA;

IR103 (Rev. 11/05)



United States Patent and Trademark Office

UNITED STATES DEPARTMENT OF COMMERCE United States Patent and Trademark Office Address: COMMISSIODNER FOR PATENTS P.O. Box 1450 Alexandria, Virginia 22313-1450 www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.				
09/289,550	09/289,550 04/09/1999 RICHARD W. FRIESEN		3854 8747					
Mr. Steven Bor	7590 03/09/2007 rsand		EXAM	INER				
	Intellectual Property		KAZIMI,	HANI M				
	222 South Riverside Plaza, Suite 1100 Trading Technology International, Inc.		ART UNIT	PAPER NUMBER				
Chicago, IL 60			3691					
			MAIL DATE	DELIVERY MODE				
			03/09/2007	PAPER				

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

	Application No.	Applicant(s)
Pagnance to Pula 242 Communication	09/289,550	FRIESEN ET AL.
Response to Rule 312 Communication	Examiner	Art Unit
	Hani Kazimi	3691
The MAILING DATE of this communication a	ppears on the cover sheet with the	correspondence address –
 The amendment filed on <u>25 August 2006</u> under 37 CFR a) ☐ entered. 	1.312 has been considered, and has	been:
b) a entered as directed to matters of form not affecting	the scope of the invention.	
c) disapproved because the amendment was filed after the date the issue fe and the required fee to withdraw the application	e is paid must be accompanied by a p	petition under 37 CFR 1.313(c)(1)
d) disapproved. See explanation below.		
e) entered in part. See explanation below.		
	Hani Primary	M. KAZIMI EXAMINER
		Hani M. Kazimi Primary Examiner Art Unit: 3691



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE United States Patent and Trademark Office Address COMMISSIONER FOR PATENTS P.O. Box 1450 Alexandria, Vignia 22313-1450 www.uspto.gov

BIBDATASHEET

Bib Data Sheet

CONFIRMATION NO. 8747

SERIAL NUMBER 09/289,550	FILING OR 371(c) DATE 04/09/1999 RULE	CLASS 705		UP ART UNIT 3624		DOCK		ATTORNEY OCKET NO. 3854
APPLICANTS RICHARD W. FRIESEN, FAIRFAX, CA; PETER C. HART, SAN RAFAEL, CA; ** CONTINUING DATA **********************************								
	EIGN FILING LICENSE							
met Verified and	Foreign Priority claimed							
ADDRESS Mr. Steven Borsand Vice President Intelle 222 South Riverside Trading Technology Chicago, IL60606	Plaza, Suite 1100							
TITLE USER INTERFACE	FOR AN ELECTRONIC	TRADING SYSTEM						
FILING FEE RECEIVED 1888 FEES: Authority has been given in Paper No to charge/credit DEPOSIT ACCOUNT No for following: All Fees 1.16 Fees (Filing) 1.17 Fees (Processing Ext. time) 1.18 Fees (Issue) Other Oredit					essing Ext. of			

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.

09/289,550

Confirmation No. 8747

Applicants:

Richard W. Friesen et al.

Filed

04/09/1999

TC/A.U.

3624

Examiner

Charles R Kyle

Docket No. :

3854

AMENDMENT UNDER 37 C.F.R. §1.312

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Sir:

In response to the Notice of Allowance mailed on August 7, 2006, Applicants submit the following:

Listing of Claims begins on page 2 of this paper -amendments have been made.

Remarks begin on page 9 of this paper.

Listing of Claims:

1. (Previously presented) A computer based method for facilitating the placement of an order for an item and for displaying transactional information to a user regarding the buying and selling of items in a system where orders comprise a bid type or an offer type, and an order is generated for a quantity of the item at a specific value, the method comprising:

displaying a plurality of bid indicators, each corresponding to at least one bid for a quantity of the item, each bid indicator at a location along a first scaled axis of prices corresponding to a price associated with the at least one bid;

displaying a plurality of offer indicators, each corresponding to at least one offer for a quantity of the item, each offer indicator at a location along the first scaled axis of prices corresponding to a price associated with the at least one offer;

receiving market information representing a new order to buy a quantity of the item for a specified price, and in response to the received market information, generating a bid indicator that corresponds to the quantity of the item bid for and placing the bid indicator along the first scaled axis of prices corresponding to the specified price of the bid;

receiving market information representing a new order to sell a quantity of the item for a specified price, and in response to the received market information, generating an offer indicator that corresponds to the quantity of the item for which the offer is made and placing the offer indicator along the first scaled axis of prices corresponding to the specified price of the offer;

displaying an order icon associated with an order by the user for a particular quantity of the item;

selecting the order icon and moving the order icon with a pointer of a user input device to a location associated with a price along the first scaled axis of prices; and

sending an order associated with the order icon to an electronic trading exchange, wherein the order is of a bid type or an offer type and the order has a plurality of order parameters comprising the particular quantity of the item and the price corresponding to the location at which the order icon was moved.

- 2. (Previously presented) The method of claim 1 wherein the order icon is adjustable by the user to reflect the quantity of the order.
- 3. (Canceled)
- 4. (Previously presented) The method of claim 1 further comprising:
 receiving a request for an order responsive to a user action specifying a quantity
 of the item and price for the order.
- 5-9. (Canceled)
- 10. (Previously presented) The method of claim 1 further comprising: displaying the order icon placed by the user with a first visual characteristic; and displaying the bid and offer indicators corresponding to orders placed by other users with a second visual characteristic.
- 11. (Previously presented) The method of claim 1 further comprising:
 displaying each of the plurality of bid and offer indicators having an edge which is angled toward the first scaled axis of values.
- 12. (Previously presented) The method of claim 1: wherein the bid indicator is generated such that a size of the bid indicator corresponds to the quantity of the item bid for.
- 13-15. (Canceled)
- 16. (Previously presented) The method of claim 1:

wherein the offer indicator is generated such that a size of the offer indicator corresponds to the quantity of the item for which the offer is made.

- 17. (Canceled)
- 18. (Previously presented) The method of claim 1 further comprising: generating a second axis, perpendicular to the first scaled axis of prices, representing time;

generating a third axis, perpendicular to the second axis, representing value; and displaying a historical chart representing values of the item responsive to time and value with respect to the second and third axes.

19-27. (Canceled)

28. (Previously presented) The method of claim 1 further comprising:
displaying a plurality of order tokens having different values;
receiving a selection for an order token; and
moving the order token to a user specified location with respect to the first scaled
axis of prices which corresponds to the desired price;

thereby enabling placing of the order in accordance with the desired price.

29-60. (Canceled)

- 61. (Previously presented) The method of claim 1 further comprising visually distinguishing bid indicators from offer indicators.
- 62. (Previously presented) The method of claim 1 further comprising visually distinguishing the order icon from the plurality of bid and offer indicators.

- 63. (Previously presented) The method of claim 1 further comprising displaying a marker representing a value of interest at a location associated with a price on the first scaled axis of prices.
- 64. (Previously presented) The method of claim 63 wherein the location at which the marker is displayed is updated dynamically.
- 65. (Previously presented) The method of claim 1 wherein the user initiated command comprises selecting the order icon using a pointer device and dragging the order icon to the location.
- 66. (Previously presented) The method of claim 1 further comprising modifying the order icon based on a transaction.
- 67. (Previously presented) The method of claim 1 wherein the size of the order icon is associated with the quantity of the order.
- 68. (Previously presented) The method of claim 1 wherein the prices on the first scaled axis of prices are based on a price for the item.
- 69. (Previously presented) The method of claim 1 wherein the item comprises a commodity.
- 70. (Previously presented) The method of claim 63 wherein the marker comprises a line.
- 71. (Previously presented) The method of claim 1 wherein the prices on the first scaled axis of prices represent a qualitative measure.

- 72. (Previously presented) The method of claim 71 wherein the qualitative measure represents a derivative of price.
- 73. (Previously presented) The method of claim 72 wherein the derivative of price is an interest rate, a bond cost, an implied interest rate, or implied volatility of the item.
- 74. (Previously presented) The method of claim 71 wherein the qualitative measure represents any metric by which an item can be valued.
- 75. (Previously presented) The method of claim 71 wherein different qualitative measures can be chosen by the user.
- 76. (Previously presented) The method of claim 71 further comprising receiving a command to select a new qualitative measure and updating the display of the plurality of bid indicators and the plurality of offer indicators to locations along the first scaled axis of prices corresponding to prices associated with the new qualitative measure.
- 77. (Previously presented) The method of claim 1 wherein the bid indicator displays the quantity of the item associated with the bid and the offer indicator displays the quantity of the item associated with the offer.
- 78. (Previously presented) The method of claim 1 wherein the order icon displays the quantity of the order placed by the user.
- 79. (Previously presented) The method of claim 1 further comprising displaying contextual data along with the plurality of bid and offer indicators.
- 80. (Currently amended) The method of claim 79 wherein the contextual data is displayed as a historical chart along the first scaled axis of values prices.

- 81. (Previously presented) The method of claim 79 wherein the contextual data is displayed as a volume graph.
- 82. (Previously presented) The method of claim 79 wherein the contextual data indicates the high and low values of the item for a period of time.
- 83. (Previously presented) The method of claim 1 wherein the first scaled axis of prices is graduated in intervals such that each interval represents a particular price.
- 84. (Previously presented) The method of claim 1 further comprising the step of displaying the prices along the first scaled axis of prices.
- 85. (Previously presented) The method of claim 1 wherein the each of plurality of bid and offer indicators are graphically represented to the user as icons.
- 86. (Currently amended) A computer readable medium having program code recorded thereon for execution on a computer for displaying transactional information to a user regarding the buying and selling of items in a system where orders comprise a bid type or an offer type, and an order is generated for a quantity of an item at a specific value, the method comprising:
- a first program code for displaying a plurality of bid indicators, each corresponding to at least one bid for a quantity of the item, each bid indicator at a location along a first scaled axis of prices corresponding to a price associated with the at least one bid;
- a second program code for displaying a plurality of offer indicators, each corresponding to at least one offer for a quantity of the item, each offer indicator at a location along the first scaled axis of prices corresponding to a price associated with the at least one offer;
- a third program code for receiving market information representing a new order to buy a quantity of the item for a specified price, and in response to the received market

information, generating a bid indicator that corresponds to the quantity of the item bid for and placing the bid indicator along the first scaled axis of prices corresponding to the specified price of the bid;

a fourth program code for receiving market information representing a new order to sell a quantity of the item for a specified price, and in response to the received market information, generating an offer indicator that corresponds to the quantity of the item for which the offer is made and placing the offer indicator along the first scaled axis of prices corresponding to the specified price of the offer;

a fifth program code for displaying an order icon associated with an order by the user for a particular quantity of the item;

a sixth program code for selecting the order icon and moving the order icon with a pointer of a user input device to a location associated with a price along the first scaled axis of prices; and

a seventh program code for sending an order associated with the order icon to an electronic trading exchange, wherein the order is of a bid type or an offer type and the order has a plurality of order parameters comprising the particular quantity of the item and the price corresponding to the location at which the order icon was moved.

87-98. (Cancelled)

REMARKS

Applicants thank Examiner for calling Applicants back on August 16, 2006. Pursuant to the Examiner's suggestion, Applicants enter the claim amendments under 37 C.F.R. §1.312.

Amendment

Applicants amended claims 80 and 86. Claim 80 was amended to conform to the claims amended in the Examiner's amendment on April 18, 2006. Claim 86 was amended to correct a typographical error. Applicants respectfully submit that the claim amendments are not substantive, as acknowledged by Examiner, and no new matter has been added.

		Respectfully submitted
Date:	8/22/06	By: Joh Hendon
_		Jøseph Herndon
		Reg. No. 50,469





PART B - FEE(S) TRANSMITTAL

re and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE
Commissioner for Patents
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(571)-273-2885

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Chicago, IL 606	logy International, I 06	nc.		Joseph A	Herr	ıdon	(Depositor's name)
•			<u> </u>	John He	ula		(Signature)
		· 		August 22	200	06	(Date)
APPLICATION NO.	FILING DATE		FIRST NAMED INVENTOR		ATTORN	EY DOCKET NO.	CONFIRMATION NO.
09/289,550	04/09/1999		RICHARD W. FRIESEN			3854	8747
TITLE OF INVENTION	: USER INTERFACE F	OR AN ELECTRONIC T	RADING SYSTEM 50	1 08/	28/2006	GWORDOF2 00000)015 09289550
				01 l 02 l	FC:1501 FC:1504		1400.00 OP 300.00 OP
APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUI	E FEE 1	OTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	\$700= 1400	\$300	\$0		\$1000	11/07/2006
EXAM	IINER	ART UNIT	CLASS-SUBCLASS			1700	
KYLE, CH	IARLES R	3624	705-037000				
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	ondence address (or Cha B/122) attached. ication (or "Fee Address' 22 or more recent) attach		(1) the names of up to or agents OR, alternativ (2) the name of a single registered attorney or a 2 registered patent attor listed, no name will be p	ely, firm (having as a gent) and the name neys or agents. If			& Berghoff LL
		TO BE PRINTED ON T	HE PATENT (print or type	e)			
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Trading T	echnologies	Internationa	l, Inc. Ch	icago, IL	1		
Please check the appropri	iate assignee category or	categories (will not be pri	inted on the patent):	Individual Q Co	rporation o	or other private grou	p entity Government
4a. The following fec(s) a issue Fee Publication Fee (N	o small entity discount p		Payment of Fec(s): (Pleas A check is enclosed. Payment by credit card The Director is hereby	l. Form PTO-2038 authorized to char	is attache	d. ired fee(s), any defi	ciency, or credit any
5. Change in Entity Stat	tur (from etopic indicated	Labove)	overpayment, to Depos	it Account Numbe	r <u>13-2</u>	490 (enclose an	extra copy of this form).
	SMALL ENTITY statu	s. See 37 CFR 1.27.	b. Applicant is no long	er claiming SMAL	L ENTIT	Y status. See 37 CFR	L 1.27(g)(2).
NOTE: The Issue Fee and interest as shown by the r	d Publication Fee (if requeecords of the United State	tired) will not be accepted es Patent and Trademark	from anyone other than th	e applicant; a regis	stered attor	ney or agent; or the	assignee or other party in
Authorized Signature	J. J. SA	ento		Date 1		2, 2006	
Typed or printed name	Joseph A	. Herndon		Registration No	o. <u>50</u> ,	469	
Alexandria, Virginia 2231	Authorized Signature Joseph A. Herndon Registration No. 50, 469 This collection of information 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.						
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OMB 0651-0033

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

(Case No. 3854)

Mare th	e Application of:)	
	Friesen et al.)	Group Art Unit: 3624
Serial 1	No. 09/289,550)	Examiner: Kyle
Filed:	April 9, 1999)	
For:	User Interface for an Electronic Trading)	
	•)	

Mail Stop Issue Fee Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450

Sir:

TRANSMITTAL LETTER

In regard to the above identified application:

- 1. We are transmitting herewith the attached:
 - A. Amendment Under 37 CFR §1.312
 - B. Submission of Formal Drawings
 - C. 11 Sheets of Drawings (Figures 1-11)
 - D. Issue Fee Transmittal in duplicate
 - E. Return Receipt Postcard
- 2. With respect to additional fees, attached is a check in the amount of \$1,700.00
- 3. Please charge any additional fees or credit overpayment to Deposit Account No. 13-2490. A duplicate copy of this sheet is enclosed.
- 4. CERTIFICATE OF MAILING UNDER 37 CFR § 1.8: The undersigned also hereby certifies that this Transmittal Letter and the paper, as described in paragraph 1 hereinabove, are being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop Issue Fee, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on this 22nd day of August, 2006.

By

Joseph A. Herndon

Reg. No. 50,469

ANG 25 2006 BE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

(Case No. 3854)

In re the Application of:)	
Friesen et al.) Group Art U	nit: 3624
Serial No. 09/289,550) Examiner: C	harles R. Kyle
Filed: April 9, 1999))	
For: User Interface for Electronic Trading System))	

SUBMISSION OF FORMAL DRAWINGS

Mail Stop Issue Fee Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Sir:

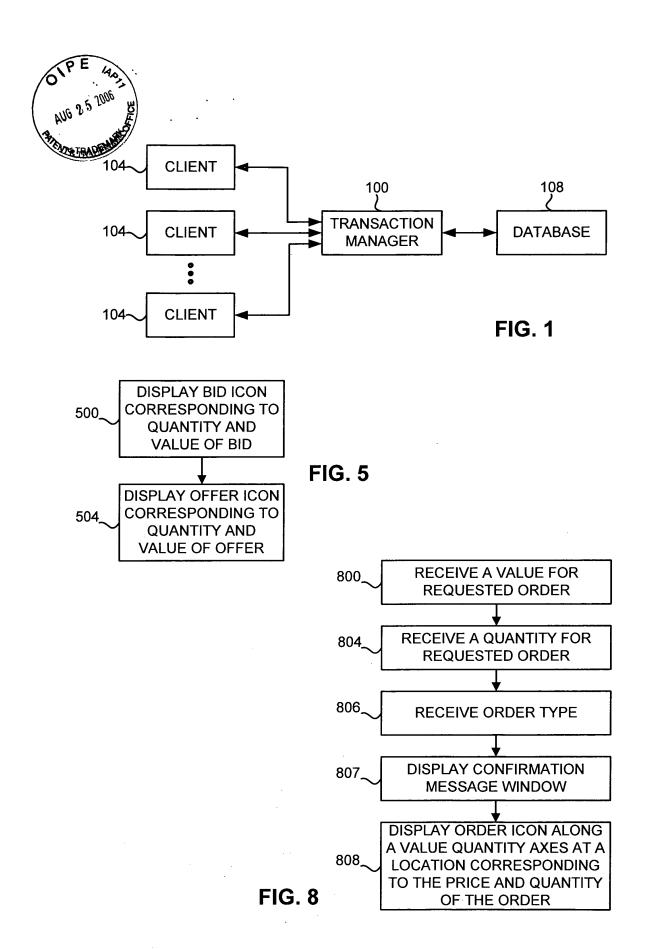
The attached drawings are submitted to comply with the Examiner's request for formal drawings related to the invention of allowed application S.N. 09/289,550 filed on April 9, 1999, 2000. The Examiner, in his notice of allowance, required submission of formal drawings at this time. The drawing problems identified by the Examiner are remedied by the submission of the attached formal drawings.

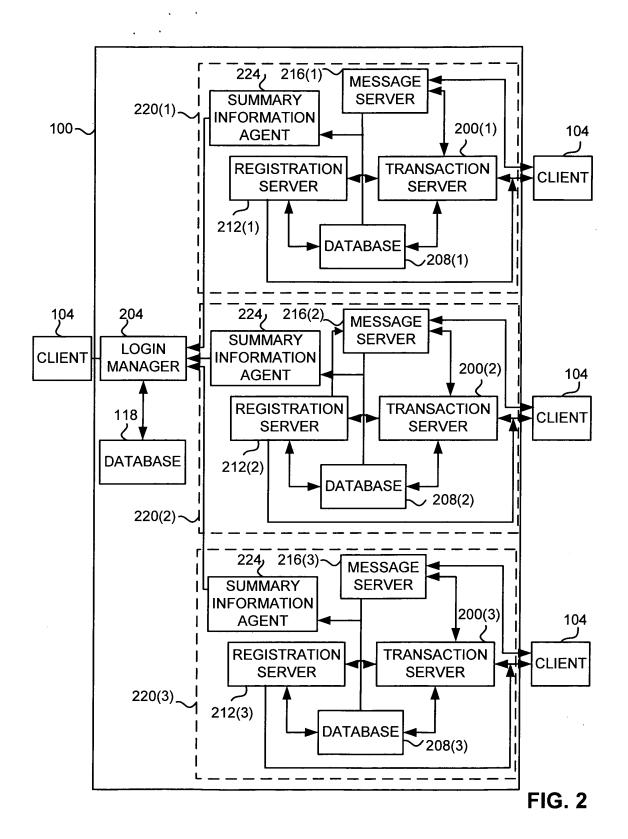
Respectfully submitted

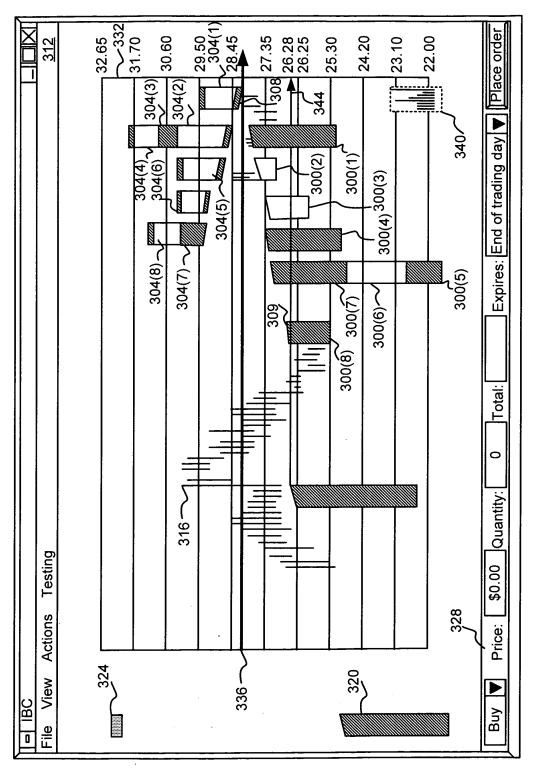
McDonnell Boehnen Hulbert & Berghoff

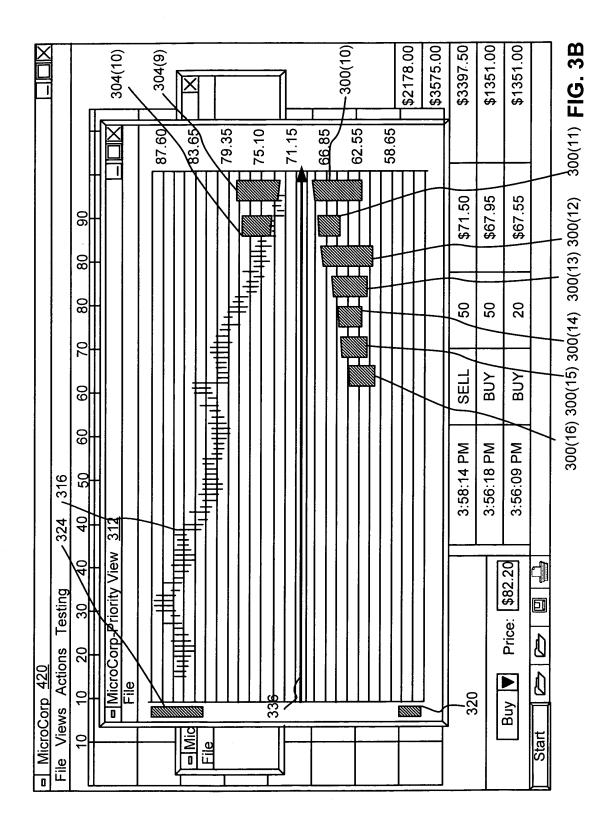
Dated: August 22, 2006

Joseph A. Herndo Reg No. 50,469









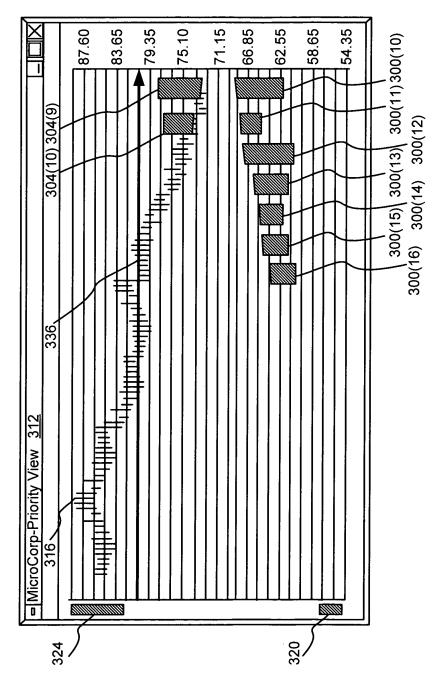


FIG. 3C

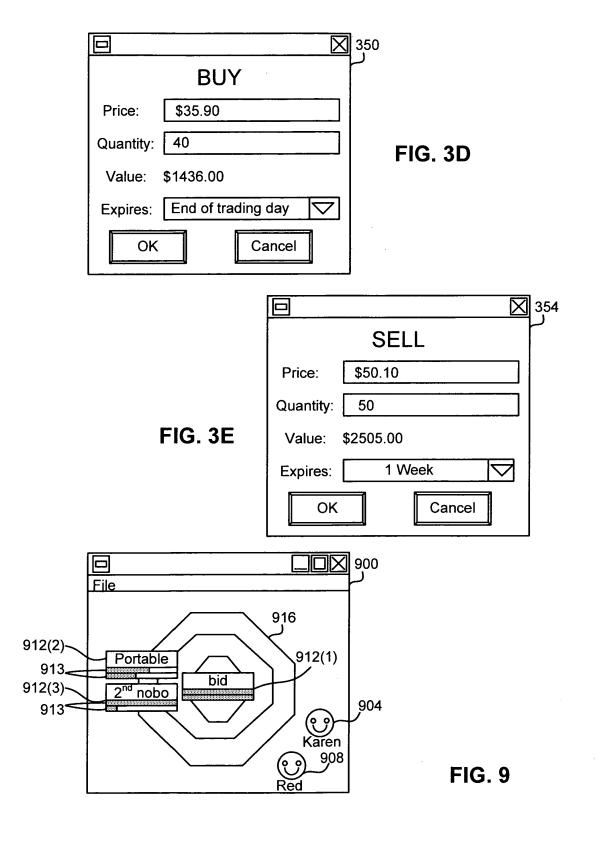


FIG. 4

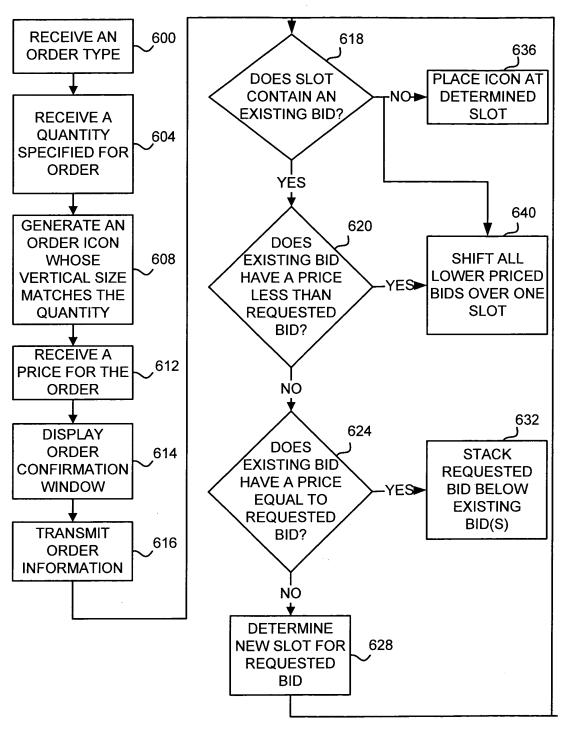


FIG. 6

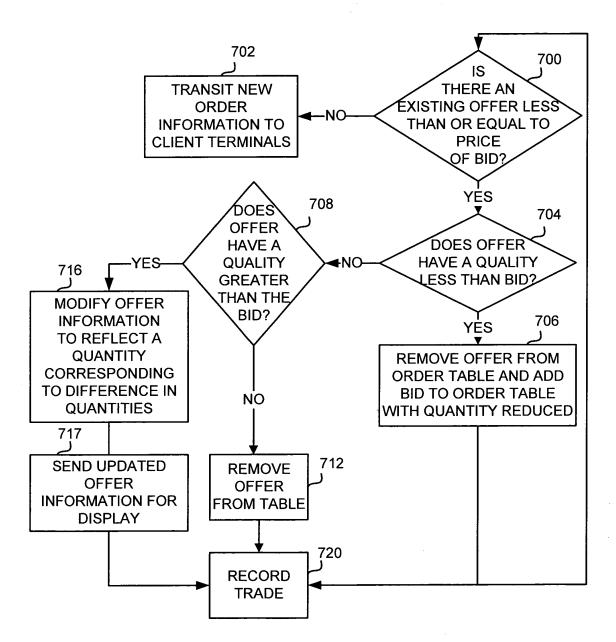
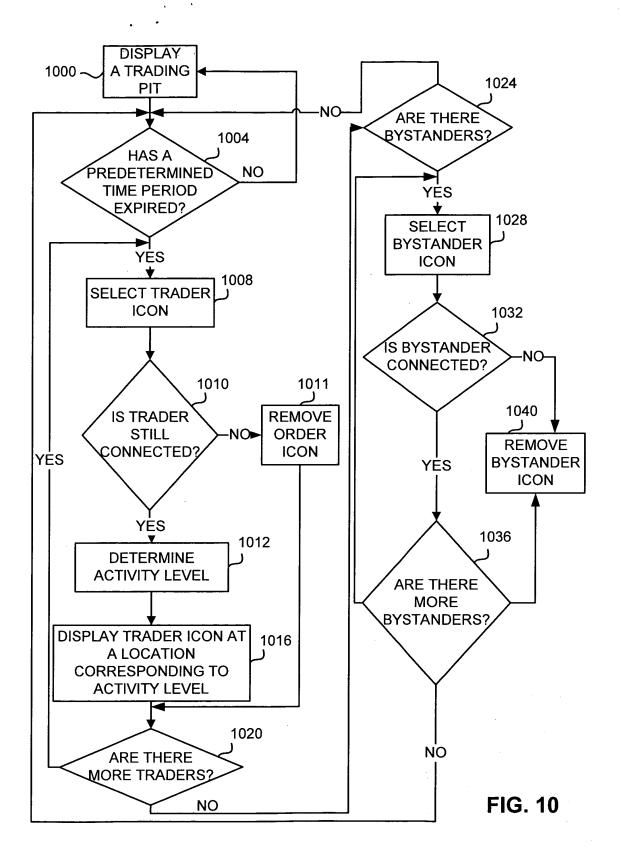


FIG. 7



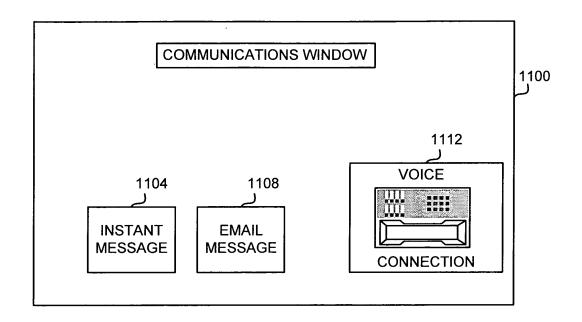


FIG. 11



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08/07/2006

Mr. Steven Borsand Vice President Intellectual Property 222 South Riverside Plaza, Suite 1100 Trading Technology International, Inc. Chicago, IL 60606 EXAMINER

KYLE, CHARLES R

ART UNIT PAPER NUMBER

3624

DATE MAILED: 08/07/2006

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/289 550	04/09/1999	RICHARD W. FRIESEN	3854	8747

TITLE OF INVENTION: USER INTERFACE FOR AN ELECTRONIC TRADING SYSTEM

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	\$700	\$300	\$0	\$1000	11/07/2006

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.

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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.

Page 1 of 3

PTOL-85 (Rev. 07/06) Approved for use through 04/30/2007.

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Chicago, IL 6060	16		Ī			(Signature)
						(Date)
APPLICATION NO.	FILING DATE		FIRST NAMED INVENT	OR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/289,550	04/09/1999		RICHARD W. FRIESI	EN .	3854	8747
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APPLN, TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DU			
nonprovisional	YES	\$700	\$300	\$0	\$1000	11/07/2006
EXAMI	NER	ART UNIT	CLASS-SUBCLASS			
KYLE, CHA		3624	705-037000			
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	SMALL ENTITY statu	is. See 37 CFR 1.27.			LL ENTITY status. See 37 (
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OMB 0651-0033

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/289,550	04/09/1999	RICHARD W. FRIESEN	3854	8747
7.	590 08/07/2006		EXAM	INER
Mr. Steven Bors	and		KYLE, CH	IARLES R
Vice President Into	ellectual Property		ART UNIT	PAPER NUMBER
	de Plaza, Suite 1100 gy International, Inc.		3624 DATE MAILED: 08/07/200	6

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)

(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 0 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 0 day(s).

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 Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

	A 11-11-11-11-11-11-11-11-11-11-11-11-11-	Annlinent/a)	
	Application No.	Applicant(s)	
	09/289,550	FRIESEN ET AL.	·
Notice of Allowability	Examiner	Art Unit	
	Charles Kyle	3624	
The MAILING DATE of this communication appears to the series of the series allowable, PROSECUTION ON THE MERITS IS the series of the office of the series of the office or upon petition by the applicant. See 37 CFR 1.313 I. This communication is responsive to the communication of the series	(OR REMAINS) CLOSED in this app or other appropriate communication IGHTS. This application is subject to and MPEP 1308.	blication. It not include will be mailed in due	ea course. THIS
2. ☑ The allowed claim(s) is/are 1,2,4,10-12,16,18,28,61-86.	·		
Acknowledgment is made of a claim for foreign priority under a) All b) Some* c) None of the: 1. Certified copies of the priority documents have 2. Certified copies of the priority documents have 3. Copies of the certified copies of the priority documents have International Bureau (PCT Rule 17.2(a)). * Certified copies not received: Applicant has THREE MONTHS FROM THE "MAILING DATE" noted below. Failure to timely comply will result in ABANDONN THIS THREE-MONTH PERIOD IS NOT EXTENDABLE. A SUBSTITUTE OATH OR DECLARATION must be subminformal PATENT APPLICATION (PTO-152) which give including changes required by the Notice of Draftspers 1) hereto or 2) to Paper No./Mail Date (b) including changes required by the attached Examiner' Paper No./Mail Date	e been received. e been received in Application No cuments have been received in this of this communication to file a reply MENT of this application. Initted. Note the attached EXAMINER es reason(s) why the oath or declarates to be submitted. Is on's Patent Drawing Review (PTO- Is Amendment / Comment or in the	national stage application of the complying with the reserved in the complying with the reserved in the complying with the reserved in the complex com	quirements
Identifying indicia such as the application number (see 37 CFR 1 each sheet. Replacement sheet(s) should be labeled as such in t	.84(c)) should be written on the drawing the header according to 37 CFR 1.121(ngs in the front (not th d).	e back) of
5. DEPOSIT OF and/or INFORMATION about the depo attached Examiner's comment regarding REQUIREMENT	sit of BIOLOGICAL MATERIAL r FOR THE DEPOSIT OF BIOLOGIC	must be submitted. AL MATERIAL.	Note the
Attachment(s) 1. ☑ Notice of References Cited (PTO-892) 2. ☑ Notice of Draftperson's Patent Drawing Review (PTO-948) 3. ☑ Information Disclosure Statements (PTO-1449 or PTO/SB/0 Paper No./Mail Date 5/24/99, 6/21/05 4. □ Examiner's Comment Regarding Requirement for Deposit of Biological Material	5. Notice of Informal F 6. Interview Summary Paper No./Mail Da 7. Examiner's Amendi 8. Examiner's Stateme 9. Other	(PTO-413), te ment/Comment	

U.S. Patent and Trademark Office PTOL-37 (Rev. 7-05)

Notice of Allowability

Part of Paper No./Mail Date 04182006

Allowable Subject Matter

Claims 1,2,4,10-12,16,18,28,61-86 are allowed.

The following is an examiner's statement of reasons for allowance for Claims 1,2,4,10-12,16,18,28,61-86: The best prior art of record, *Silverman* neither discloses nor fairly suggests the limitations of displaying a plurality of order indicators of bid and offer types along a first scaled axis of price, receiving market information representing new orders to sell or buy quantities of items for a specified price, generating new bid or offer indicators in response to the market information and placing the new indicators along a first scaled axis of price, displaying an order icon, selecting the order icon with a pointer and moving it to a location associated with a new price and sending an order associated with the order icon to an electronic trading exchange, the order having parameters of quantity and price corresponding to the location at which the order icon was moved.

The prior art references show some elements of the claimed invention but could not reasonably combined to reject the presented claims.

The drawings are unacceptable as presented. Please see the enclosed PTOL-948.

Conclusion

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Application/Control Number: 09/289,550 Page 3

Art Unit: 3624

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Kyle whose telephone number is (571) 272-6746. The examiner can normally be reached on 6:30 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vincent Millin can be reached on (571) 272-6747. 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).

crk April 18, 2006 Primary Examiner Charles Kyle Art Unit 3624

Charles / fl

Art Unit: 3624

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 Mark Triplett on 18 April 2006.

1. A computer based method for facilitating the placement of an order for an item and for displaying transactional information to a user regarding the buying and selling of items in a system where orders comprise a bid type or an offer type, and an order is generated for a quantity of the item at a specific value, the method comprising:

displaying a plurality of bid indicators, each corresponding to at least one bid for a quantity of the item, each bid indicator at a location along a first scaled axis of values prices corresponding to a value price associated with the at least one bid;

displaying a plurality of offer indicators, each corresponding to at least one offer for a quantity of the item, each offer indicator at a location along the first scaled axis of values prices corresponding to a value price associated with the at least one offer;

receiving market information representing a new order to buy a quantity of the item for a specified price, and in response to the received market information, generating a bid indicator that corresponds to the quantity of the item bid for and placing the bid indicator along the first scaled axis of prices corresponding to the specified price of the bid;

receiving market information representing a new order to sell a quantity of the item for a specified price, and in response to the received market information, generating an offer indicator that corresponds to the quantity of the item for which the offer is made

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and placing the offer indicator along the first scaled axis of prices corresponding to the specified price of the offer;

displaying an order icon associated with an order by the user for a particular quantity of the item; and

in response to a user initiated command, selecting the order icon and moving the order icon with a pointer of a user input device to a location associated with a value price along the first scaled axis of values prices; and

sending an order associated with the order icon to an electronic trading exchange, wherein the order is of a bid type or an offer type and the order has a plurality of order parameters comprising the particular quantity of the item and the price corresponding to the location at which the order icon was moved.

- 2. The method of claim 1 wherein the order icon is adjustable by the user to reflect the quantity of the order.
- 3. (Cancelled)
- 4. The method of claim 1 further comprising:

 receiving a request for an order responsive to a user action specifying a quantity
 of the item and value price for the order.
- 5-9. (Cancelled)
- 10. The method of claim 1 further comprising: displaying the order icon placed by the user with a first visual characteristic; and displaying the bid and offer indicators corresponding to orders placed by other users with a second visual characteristic.
- 11. The method of claim 1 further comprising:displaying each of the plurality of bid and offer indicators having an edge which

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is angled toward the first scaled axis of values.

12. The method of claim 1 further comprising:

receiving market information representing a new order to buy a quantity of the item for a specified value;

wherein the bid indicator is generated such that a size of the bid indicator in response to the received market information, generating a bid indicator whose size corresponds to the quantity of the item bid for.; and

placing the bid indicator at a location along the first scaled axis of values corresponding to the specified value of the bid.

13-15. (Cancelled)

16. The method of claim 1 further comprising:

receiving market information representing a new order to sell a quantity of the item for a specified value;

wherein the offer indicator is generated such that a size of the offer indicator in response to the received market information, generating an offer indicator whose size corresponds to the quantity of the item for which the offer is made.; and

placing the offer indicator at a location along the first scaled axis of values corresponding to the specified value of the offer.

17. (Cancelled)

18. The method of claim 1 further comprising:

generating a second axis, perpendicular to the first scaled axis of <u>prices</u> values, representing time;

generating a third axis, perpendicular to the second axis, representing value; and displaying a historical chart representing values of the item responsive to time and value with respect to the second and third axes.

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19-27. (Cancelled)

28. The method of claim 1 further comprising:

displaying a plurality of order tokens having different values;

receiving a selection for an order token; and

moving the order token to a user specified location with respect to the first scaled axis

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of values prices which corresponds to the desired price value;

thereby enabling placing of the order in accordance with the desired price value.

29-60. (Cancelled)

61. The method of claim 1 further comprising visually distinguishing bid indicators from offer indicators.

62. The method of claim 1 further comprising visually distinguishing the order icon from the plurality of bid and offer indicators.

- 63. The method of claim 1 further comprising displaying a marker representing a value of interest at a location associated with a <u>price</u> value on the first scaled axis of prices values.
- 64. The method of claim 63 wherein the location at which the marker is displayed is updated dynamically.
- 65. The method of claim 1 wherein the user initiated command comprises selecting the order icon using a pointer device and dragging the order icon to the location.
- 66. The method of claim 1 further comprising modifying the order icon based on a transaction.

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- 67. The method of claim 1 wherein the size of the order icon is associated with the quantity of the order.
- 68. The method of claim 1 wherein the <u>prices</u> values on the first scaled axis of <u>prices</u> values represent are based on a price for the item.
- 69. The method of claim 1 wherein the item comprises a commodity.
- 70. The method of claim 63 wherein the marker comprises a line.
- 71. The method of claim 1 wherein the <u>prices</u> values on the first scaled axis of <u>prices</u> values represent a qualitative measure other than price.
- 72. The method of claim 71 wherein the qualitative measure represents a derivative of price.
- 73. The method of claim 72 wherein the derivative of price is an interest rate, a bond cost, an implied interest rate, or implied volatility of the item.
- 74. The method of claim 71 wherein the qualitative measure represents any metric by which an item can be valued.
- 75. The method of claim 71 wherein different qualitative measures can be chosen by the user.
- 76. The method of claim 71 further comprising receiving a command to select a new qualitative measure and updating the display of the plurality of bid indicators and the plurality of offer indicators to locations along the first scaled axis of <u>prices</u> values corresponding to <u>prices</u> values associated with the new qualitative measure.

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- 77. The method of claim 1 wherein the bid indicator displays the quantity of the item associated with the bid and the offer indicator displays the quantity of the item associated with the offer.
- 78. The method of claim 1 wherein the order icon displays the quantity of the order placed by the user.
- 79. The method of claim 1 further comprising displaying contextual data along with the plurality of bid and offer indicators.
- 80. The method of claim 79 wherein the contextual data is displayed as a historical chart along the first scaled axis of values.
- 81. The method of claim 79 wherein the contextual data is displayed as a volume graph.
- 82. The method of claim 79 wherein the contextual data indicates the high and low values of the item for a period of time.
- 83. The method of claim 1 wherein the first scaled axis of prices is graduated in intervals such that each interval represents a particular price value.
- 84. The method of claim 1 further comprising the step of displaying the <u>prices</u> values along the first scaled axis of <u>prices</u> value.
- 85. The method of claim 1 wherein the each of plurality of bid and offer indicators are graphically represented to the user as icons.

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86. A computer readable medium having program code recorded thereon for execution on a computer for displaying transactional information to a user regarding the buying and selling of items in a system where orders comprise a bid type or an offer type, and an order is generated for a quantity of an item at a specific value, the method comprising:

a first program code for displaying a plurality of bid indicators, each corresponding to at least one bid for a quantity of the item, each bid indicator at a location along a first scaled axis of <u>prices</u> values corresponding to a <u>price</u> value associated with the at least one bid;

a second program code for displaying a plurality of offer indicators, each corresponding to at least one offer for a quantity of the item, each offer indicator at a location along the first scaled axis of <u>prices</u> values corresponding to a <u>price</u> value associated with the at least one offer;

a third program code for receiving market information representing a new order to buy a quantity of the item for a specified price, and in response to the received market information, generating a bid indicator that corresponds to the quantity of the item bid for and placing the bid indicator along the first scaled axis of prices corresponding to the specified price of the bid;

a fourth program code for receiving market information representing a new order to sell a quantity of the item for a specified price, and in response to the received market information, generating an offer indicator that corresponds to the quantity of the item for which the offer is made and placing the offer indicator along the first scaled axis of prices corresponding to the specified price of the offer;

a third fifth program code for displaying an order icon associated with an order by the user for a particular quantity of the item; and

a fourth sixth program code for , in response to a user initiated command,
selecting the order icon and moving the order icon with a pointer of a user input device to
a location associated with a value price along the first scaled axis of values price; and

a seventh program code for sending an order associated with the order icon to an electronic trading exchange, wherein the order is of a bid type or an offer type and the

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order has a plurality of order parameters comprising the particular quantity of the item and the price corresponding to the location at which the order icon was moved.

87-98. (Cancelled)

09/289,550 Clean Version

1. A computer based method for facilitating the placement of an order for an item and for displaying transactional information to a user regarding the buying and selling of items in a system where orders comprise a bid type or an offer type, and an order is generated for a quantity of the item at a specific value, the method comprising:

displaying a plurality of bid indicators, each corresponding to at least one bid for a quantity of the item, each bid indicator at a location along a first scaled axis of prices corresponding to a price associated with the at least one bid;

displaying a plurality of offer indicators, each corresponding to at least one offer for a quantity of the item, each offer indicator at a location along the first scaled axis of prices corresponding to a price associated with the at least one offer;

receiving market information representing a new order to buy a quantity of the item for a specified price, and in response to the received market information, generating a bid indicator that corresponds to the quantity of the item bid for and placing the bid indicator along the first scaled axis of prices corresponding to the specified price of the bid;

receiving market information representing a new order to sell a quantity of the item for a specified price, and in response to the received market information, generating an offer indicator that corresponds to the quantity of the item for which the offer is made and placing the offer indicator along the first scaled axis of prices corresponding to the specified price of the offer;

displaying an order icon associated with an order by the user for a particular quantity of the item;

selecting the order icon and moving the order icon with a pointer of a user input device to a location associated with a price along the first scaled axis of prices; and

sending an order associated with the order icon to an electronic trading exchange, wherein the order is of a bid type or an offer type and the order has a plurality of order parameters comprising the particular quantity of the item and the price corresponding to the location at which the order icon was moved.

- 2. The method of claim 1 wherein the order icon is adjustable by the user to reflect the quantity of the order.
- 4. The method of claim 1 further comprising:
 receiving a request for an order responsive to a user action specifying a quantity
 of the item and price for the order.
- 10. The method of claim 1 further comprising: displaying the order icon placed by the user with a first visual characteristic; and displaying the bid and offer indicators corresponding to orders placed by other users with a second visual characteristic.
- 11. The method of claim 1 further comprising:
 displaying each of the plurality of bid and offer indicators having an edge which is angled toward the first scaled axis of values.
- 12. The method of claim 1 wherein the bid indicator is generated such that a size of the bid indicator corresponds to the quantity of the item bid for.
- 16. The method of claim 1 wherein the offer indicator is generated such that a size of the offer indicator corresponds to the quantity of the item for which the offer is made.
- 18. The method of claim 1 further comprising:
 generating a second axis, perpendicular to the first scaled axis of prices,
 representing time;

generating a third axis, perpendicular to the second axis, representing value; and displaying a historical chart representing values of the item responsive to time and value with respect to the second and third axes.

28. The method of claim 1 further comprising:
displaying a plurality of order tokens having different values;
receiving a selection for an order token; and
moving the order token to a user specified location with respect to the first scaled
axis of prices which corresponds to the desired price;

thereby enabling placing of the order in accordance with the desired price.

- 61. The method of claim 1 further comprising visually distinguishing bid indicators from offer indicators.
- 62. The method of claim 1 further comprising visually distinguishing the order icon from the plurality of bid and offer indicators.
- 63. The method of claim 1 further comprising displaying a marker representing a value of interest at a location associated with a price on the first scaled axis of prices.
- 64. The method of claim 63 wherein the location at which the marker is displayed is updated dynamically.
- 65. The method of claim 1 wherein the user initiated command comprises selecting the order icon using a pointer device and dragging the order icon to the location.
- 66. The method of claim 1 further comprising modifying the order icon based on a transaction.
- 67. The method of claim 1 wherein the size of the order icon is associated with the quantity of the order.

- 68. The method of claim 1 wherein the prices on the first scaled axis of prices are based on a price for the item.
- 69. The method of claim 1 wherein the item comprises a commodity.
- 70. The method of claim 63 wherein the marker comprises a line.
- 71. The method of claim 1 wherein the prices on the first scaled axis of prices represent a qualitative measure.
- 72. The method of claim 71 wherein the qualitative measure represents a derivative of price.
- 73. The method of claim 72 wherein the derivative of price is an interest rate, a bond cost, an implied interest rate, or implied volatility of the item.
- 74. The method of claim 71 wherein the qualitative measure represents any metric by which an item can be valued.
- 75. The method of claim 71 wherein different qualitative measures can be chosen by the user.
- 76. The method of claim 71 further comprising receiving a command to select a new qualitative measure and updating the display of the plurality of bid indicators and the plurality of offer indicators to locations along the first scaled axis of prices corresponding to prices associated with the new qualitative measure.
- 77. The method of claim 1 wherein the bid indicator displays the quantity of the item associated with the bid and the offer indicator displays the quantity of the item associated with the offer.

- 78. The method of claim 1 wherein the order icon displays the quantity of the order placed by the user.
- 79. The method of claim 1 further comprising displaying contextual data along with the plurality of bid and offer indicators.
- 80. The method of claim 79 wherein the contextual data is displayed as a historical chart along the first scaled axis of values.
- 81. The method of claim 79 wherein the contextual data is displayed as a volume graph.
- 82. The method of claim 79 wherein the contextual data indicates the high and low values of the item for a period of time.
- 83. The method of claim 1 wherein the first scaled axis of prices is graduated in intervals such that each interval represents a particular price.
- 84. The method of claim 1 further comprising the step of displaying the prices along the first scaled axis of prices.
- 85. The method of claim 1 wherein the each of plurality of bid and offer indicators are graphically represented to the user as icons.
- 86. A computer readable medium having program code recorded thereon for execution on a computer for displaying transactional information to a user regarding the buying and selling of items in a system where orders comprise a bid type or an offer type, and an order is generated for a quantity of an item at a specific value, the method comprising:

a first program code for displaying a plurality of bid indicators, each corresponding to at least one bid for a quantity of the item, each bid indicator at a location along a first scaled axis of prices corresponding to a price associated with the at least one bid;

a second program code for displaying a plurality of offer indicators, each corresponding to at least one offer for a quantity of the item, each offer indicator at a location along the first scaled axis of prices corresponding to a price associated with the at least one offer;

a third program code for receiving market information representing a new order to buy a quantity of the item for a specified price, and in response to the received market information, generating a bid indicator that corresponds to the quantity of the item bid for and placing the bid indicator along the first scaled axis of prices corresponding to the specified price of the bid;

a fourth program code for receiving market information representing a new order to sell a quantity of the item for a specified price, and in response to the received market information, generating an offer indicator that corresponds to the quantity of the item for which the offer is made and placing the offer indicator along the first scaled axis of prices corresponding to the specified price of the offer;

a fifth program code for displaying an order icon associated with an order by the user for a particular quantity of the item;

a sixth program code for selecting the order icon and moving the order icon with a pointer of a user input device to a location associated with a price along the first scaled axis of prices; and

a seventh program code for sending an order associated with the order icon to an electronic trading exchange, wherein the order is of a bid type or an offer type and the order has a plurality of order parameters comprising the particular quantity of the item and the price corresponding to the location at which the order icon was moved.

NOTICE OF DRAFTSPERSON'S PATENT DRAWING REVIEW

cted to by the Draftsperson under 37 CFR 1.84 or 1.152 for the reasons indicated below. Corrected wings are required.
S. 37 CFR 1.84(a): Acceptable drawings: Black ink or equired. ### S. 37 CFR 1.84(a): Acceptable until petition is Fig(s) ### does hack ink not permitted. Fig(s) ### APPRS. 37 CFR 1.84(b) ### APPRS. 37 CFR 1.84(c) ### APPRS. 37 CFR 1.84(c) ### APPRS. 37 CFR 1.84(f): Acceptable ### APPRS. 37 CFR 1.84(g): Acceptable
color contrast. Fig(s)
Surface shading shown not appropriate. Fig(s) Solid black surface shading is not permit when used to represent the color black as

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Form PTO-1449	U.S. Department of Commerce Patent and Trademark Office	Atty. Docket No. 03-1106	Serial No. 09/289,550
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OIPE EN		Applicant: Friesen et al.	
JUN 2 1 2005 W		Filing Date: 04/09/99	Group: 3624

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Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date

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Examiner	Charles R/h	Date Considered 4/18/06	
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	Application Number	09/289,550
INFORMATION DISCLOSURE	Filing Date	April 9, 1999
STATEMENT BY APPLICANT	First Named Inventor	Richard W. Friesen
	Art Unit	3624

Examiner Name

Attorney Docket Number

Kyle, Charles

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Ulla		WO 95/26005 A1	09-28-1995	Belzberg, Sydney H.		
Cllx		WO 00/52619 A1	09-08-2000	WIT CAPITAL CORPORATION		

Examiner Signature	Phoi	Lull/L	Date Considered	6/2/06

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Application Number	09/289,550				
Filing Date April 9, 1999					
First Named Inventor	Richard W. Friesen				
Art Unit	3624 OFCE				
Examiner Name	Charles Kyle				
Attorney Docket Number	36992 00106 NOV \$				

		NON PATENT LITERATURE DOCUMENTS	
Examiner Initials *	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	. T²
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Notice of References Cited Application/Control No. 09/289,550 Examiner Charles Kyle Applicant(s)/Patent Under Reexamination FRIESEN ET AL. Page 1 of 1

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*	С	US-2005/0256799 A1	11-2005	Warsaw et al.	705/037
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Issue Classification	OII

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-	Search Notes	

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Examiner	Art Unit	
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Index of Claims

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Set
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S2
            OR OPTION)
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S3
          T5) RD (unique items)
S4
          108 S1 AND (TRAD? OR EXCHANGE OR MARKET)
S5
S6
          20
               S5 AND PD<19990409
        20 RD (unique items)
S7
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File 623:Business Week 1985-2006/Apr 18
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File 810: Business Wire 1986-1999/Feb 28
         (c) 1999 Business Wire
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         (c) 2006 The Gale Group
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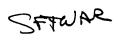
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               Description
S1
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S5
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FTEXT 2

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Set
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S2
            OR OPTION)
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               RD (unique items)
                S1 AND (TRAD? OR EXCHANGE OR MARKET)
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S6
                S5 AND PD<19990409
               RD (unique items)
S7
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File 583:Gale Group Globalbase(TM) 1986-2002/Dec 13
         (c) 2002 The Gale Group
File 65:Inside Conferences 1993-2006/Apr 18
         (c) 2006 BLDSC all rts. reserv.
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         (c) 2006 The HW Wilson Co.
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File 474: New York Times Abs 1969-2006/Apr 17
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File 475: Wall Street Journal Abs 1973-2006/Apr 10
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NFTEXT

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2 PRICE(2N)(A)
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S2
            OR OPTION)
            0 S2 AND PD<19990409
            0 RD (unique items)
S4
            1 S1 AND (TRAD? OR EXCHANGE OR MARKET)
S5
S6
                S5 AND PD<19990409
S7
            0 RD (unique items)
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File 256:TecInfoSource 82-2006/May
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S1	3	PRICE(2N) (AXIS OR AXES)				
S2	1	S1 AND (STOCK? OR SECURIT? OR BOND OR DERIVATIVE OR SHARE -				
OR OPTION)						
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S4	0	RD (unique items)				
S5	1	S1 AND (TRAD? OR EXCHANGE OR MARKET)				
S6	0	S5 AND PD<19990409				
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

(Case No. 3854)

In re th	ne Application of:)	
	Friesen et al.)	Group Art Unit: 3624
Serial No. 09/289,550)	Examiner: Kyle
Filed:	April 9, 1999)	
For:	User Interface for an Electronic Trading System)	
Mail Stop Appeal Brief - Patents Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450			

Sir:

TRANSMITTAL LETTER

In regard to the above identified application:

- 1. We are transmitting herewith the attached:
 - A. Appellant's Brief in Support of the Appeal to the Board of Patent Appeals and Interferences
 - B. Return Receipt Postcard.
- 2. With respect to additional fees, attached is a check in the amount of \$500.00
- 3. Please charge any additional fees or credit overpayment to Deposit Account No. 13-2490. A duplicate copy of this sheet is enclosed.
- 4. CERTIFICATE OF MAILING UNDER 37 CFR § 1.10: The undersigned hereby certifies that this Transmittal Letter and the paper, as described in paragraph 1 hereinabove, are being deposited with the United States Postal Service as "Express Mail Post Office to Addressee", addressed to the Mail Stop Appeal Brief Patents, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this February 28, 2006 under the Express Mail label No. EV839407928US.

By

Robert J. Irvine

Reg. No. 41,865



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Appl. No

09/289,550

Applicants

Richard W. Friesen et al.

Filed

04/09/1999

TC/A.U.

3624

Examiner

Charles R. Kyle

Docket No. :

3854

APPELLANTS' BRIEF IN SUPPORT OF THE APPEAL TO THE BOARD OF PATENT APPEALS AND INTERFERENCES

03/02/2006 DEMMANU1 00000030 09289550

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I. Real Party in Interest

The real party in interest for the above-referenced application is Trading Technologies International, Inc. whose address is 222 S. Riverside Plaza, Suite 1100, Chicago, Illinois, 60606.

II. Related Appeals and Interferences

Appellants' legal representative is unaware of any other appeals or interferences that will directly affect, be directly affected by, or have any bearing on the Board's decision in the pending appeal.

III. Status of Claims

Claims 1, 2, 4, 10-12, 16, 18, 28, and 61-98 currently stand rejected. The claims were finally rejected in the Office Action mailed on April 21, 2005. A Pre-Appeal Brief was filed on October 19, 2005, along with a Notice of Appeal. Applicants received a panel decision, mailed January 30, 2006, maintaining the rejection of the claims. This Appeal Brief is being filed within one month of the mailing date of that panel decision. Applicants appeal the rejections of claims 1, 2, 4, 10-12, 16, 18, 28, and 61-98.

IV. Status of Amendments

No amendments have been filed subsequent to final rejection.

V. Summary of Claimed Subject Matter

Appellants' invention relates to the field of graphical user interfaces for electronic trading systems. The graphical user interface allows a remote trader to view trends in the market for an item and provides trading information in an easy to see and interpret graphical format. The graphical user interface also allows individual traders to place orders, including bids and offers, on remote client terminals that are routed to a transaction server, which matches the bids and offers. Bids refer to orders submitted by traders to buy the item and offers refer to orders submitted from traders to sell the item. Trading information from the transaction server is communicated back to the client terminals.

Appellants' independent Claim 1 claims a method embodiment for "facilitating the placement of an order for an item and for displaying transaction information to a user regarding the buying and selling of items in a system where orders comprise a bid type or an offer type, and an order is generated for a quantity of the item at a specific value."

To carry out this method, Claim 1 calls for "displaying a plurality of bid indicators" and "displaying a plurality of offer indicators." A bid indicator corresponds to "at least one bid for a quantity of the item" and "each bid indicator" is at a "location along a first scaled axis of values corresponding to a value associated with at least one bid." An offer indicator corresponds to "at least one offer for a quantity of the item" and "each offer indicator" is displayed at a "location along the first scaled axis of values corresponding to a value associated with the at least one offer." To facilitate the placement of an order using such a display, Claim 1 further calls for "displaying an order icon" associated with a user's order for a particular quantity of the item and in response to a user initiated command, "moving the order icon to a location associated with a value along the first scaled axis of values." Figure 3a of Appellants' specification, and corresponding text starting on page 11, line 9, illustrates an example embodiment where indicators 300 represent bids, indicators 304 represent offers, a values axis is shown at 332, and an order icon is shown to be moveable to a location associated with a value along the value axis 332. As illustrated in the figure, the order icon is currently positioned at a location that is associated with the value "26.28."

Appellants' independent Claim 86 similarly relates to a program code for "displaying a plurality of bid indicators" and "displaying a plurality of offer indicators" where each bid indicator and offer indicator is displayed at a location "along the first scaled axis of values corresponding to a value" associated with the bid or offer. The program code includes displaying an "order icon" associated with a user's order for a particular quantity of the item and in response to a user initiated command, "moving the order icon to a location associated with a value along the first scaled axis of values."

Appellants' independent Claim 87 claims a method embodiment for displaying transactional information to a user by "displaying a plurality of bid indicators" and a "plurality of offer indicators" at locations corresponding to values along a scaled axis such that the "values represent a derivative of price for an item." This embodiment enables bid and offer indicators to be displayed on the trader's screen in terms of a value that is a derivative of price. Page 14, starting at line 13, of Appellants' specification describes

examples of values which may represent different qualitative measures for an item, such as cost for a bond or implied interest rate for the bond, implied volatility of an item, and so on.

Appellants' independent Claim 90 relates to a method embodiment for "displaying a plurality of bid indicators" and "displaying a plurality of offer indicators" where each bid indicator and offer indicator is displayed at a location "along the first scaled axis of values corresponding to a value" associated with the bid or offer. The method includes displaying an "order token associated with at least one preset order parameter" and in response to a user initiated command, "moving the order token to a location associated with a desired value along the first scaled axis of values." Figure 3a of Appellants' specification, and corresponding text starting on page 15, line 22, illustrates an example of order tokens (e.g., offer token 324 and bid token 320) that are associated with at least one preset order parameter. This illustration shows an example in which the order tokens are preset for either a buy or sell and quantity. The "order token" can then be moved to location associated with a desired value along the "scaled axis of values."

VI. Grounds of Rejection to be Reviewed on Appeal

- (1) Whether Claims 1 and 86 are unpatentable under 35 U.S.C. § 103(a) over U.S. Patent No. 5,136,501 ("Silverman") in view of U.S. Patent No. 5,844,572 ("Schott").
- (2) Whether Claims <u>2</u> and <u>67</u> are unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott.
- (3) Whether Claim 4 is unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott.
- (4) Whether Claims 10, 61, and 62 are unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott.
- (5) Whether Claim <u>11</u> is unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott.
- (6) Whether Claims <u>12</u> and <u>16</u> are unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott.
- (7) Whether Claim 18 is unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott.
- (8) Whether Claims <u>63</u>, <u>64</u>, and <u>70</u> are unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott.

- (9) Whether Claim <u>65</u> is unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott.
- (10) Whether Claim <u>66</u> is unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott.
- (11) Whether Claim <u>68</u> is unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott.
- (12) Whether Claim <u>69</u> is unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott.
- (13) Whether Claims 77 and 78 are unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott.
- (14) Whether Claims <u>79</u>, <u>80</u>, <u>81</u>, and <u>82</u> are unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott.
- (15) Whether Claims <u>83</u> and <u>84</u> are unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott.
- (16) Whether Claim <u>85</u> is unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott.
- (17) Whether Claims <u>87</u>, <u>88</u> and <u>89</u> are unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott.
- (18) Whether Claim <u>90</u> is unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott.
- (19) Whether Claim <u>91</u> is unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott.
- (20) Whether Claims <u>92</u>, <u>93</u>, and <u>98</u> are unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott.
- (21) Whether Claim <u>94</u> and <u>95</u> are unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott.
- (22) Whether Claim and <u>96</u> is unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott.
- (23) Whether Claim <u>97</u> is unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott.
- (24) Whether Claim <u>28</u> is unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott and further in view of U.S. Patent No. 6,188,403 ("Sacerdoti").

Whether Claims 71, 72, 73, 74, 75, 76 are unpatentable under 35 U.S.C. § 103(a) over Silverman in view of Schott and further in view of U.S. 6,161,099 ("Harrington").

VII. Argument

The Examiner rejected Claims 1, 2, 4, 10-12, 16, 18, 28, and 61-98 in the final Office Action as obvious under 35 U.S.C. § 103(a). Applicants' respectfully assert that the Examiner's rejection does not meet the statutory standard required for an obviousness rejection. Reasons supporting the separate patentability for each of the above-identified issues are set forth below.

A. Statutory Standard

The statutory standard comes from 35 U.S.C. § 103(a), which provides that an invention is not patentable:

if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art.

The test for obviousness is well known. The obviousness inquiry requires: (1) an inquiry into the scope and content of the prior art; (2) identification of the differences between the prior art and the claimed invention; (3) determination of the level of ordinary skill in the art at the time of the invention; and (4) consideration of objective evidence of secondary considerations. <u>Graham v. John Deere Co.</u>, 383 U.S. 1, 17 (1966). The PTO has the burden of establishing a prima facie case of obviousness. <u>In re Fine</u>, 837 F.2d 1071, 1074 (Fed. Cir. 1988).

Relating to the first inquiry, when obviousness is based on the teachings of multiple prior art references, there must be a "suggestion, teaching, or motivation" that would have led a person of ordinary skill in the art to combine the relevant prior art teachings in the manner claimed. Tec Air, Inc. v. Denso Mfg. Mich. Inc., 192 F.3d 1353, 1359-60 (Fed.Cir.1999); Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc., 75 F.3d 1568, 1573 (Fed.Cir.1996). In other words, the "examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in

the manner claimed." In re Rouffet, 149 F.3d 1350, 1357. The reason, suggestion, or motivation to combine prior art references may be found explicitly or implicitly: (1) in the prior art references themselves; (2) in the knowledge of those of ordinary skill in the art that certain references, or disclosures in those references, are of special interest or importance in the field; or (3) from the nature of the problem to be solved, "leading inventors to look to references relating to possible solutions to that problem." Ruiz v. A.B. Chance Co., 234 F.3d 654, 665 (Fed.Cir.2000) (quoting Pro-Mold, 75 F.3d at 1572).

The showing of a motivation to combine "must be clear and particular, and it must be supported by actual evidence." Teleflex v. Ficosa North America, 299 F.3d 1313, 1334 (Fed. Cir. 2002). Broad conclusory statements about the teaching of multiple references, standing alone, are not "evidence." Brown & Williamson Tobacco v. Philip Morris, 229 F.3d 1120, 1125 (Fed. Cir. 2000). The use of hindsight is impermissible. "Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references." In re Dembiczak, 175 F.3d 994, 999 (Fed. Cir. 1999); see also Ruiz v. A.B. Chance Co., 234 F.3d 654, 665 (Fed. Cir. 2000). This is because "[c]ombining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability-the essence of hindsight." In re Dembiczak, 175 F.3d 994, 999 (Fed. Cir. 1999).

Section § 103(a) states that obviousness is to be assessed relative to "the art to which the subject matter pertains." Analogous prior art is that art to which one seeking a solution to a particular problem, or attempting to achieve a particular result, would look for the purpose of finding the answer to that problem, or suggestions as to the attainment of that result. The test for analogous art has been said to be "similarity of elements, problems and purposes." <u>Universal Elec. Co. v. A.O. Smith Corp.</u>, 643 F.2d 1240, 1246, 209 U.S.P.Q. (BNA) 1077, 1081 (6th Cir. 1981); <u>Skega Aktiebolag v. B. F. Goodrich Co.</u>, 420 F.2d 1358, 1359, 164 U.S.P.Q. (BNA) 333, 334 (6th Cir. 1970).

Relating to the second inquiry, the focus is not merely on the differences between the claimed invention and the prior art, but on the claimed "subject matter as a whole." Panduit Corp. v. Dennison Mfg. Co., 810 F.2d 1561, 1565 (Fed. Cir. 1987). A patent claim is obvious, and thus invalid, when the differences between the claimed invention and the prior art "are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art." 35 U.S.C. § 103; see also Graham v. John Deere Co., 383 U.S. 1, 13, 86 S.Ct. 684, 692, 15 L.Ed.2d 545 (1966); In re Dembiczak, 175 F.3d 994, 998 (Fed.Cir.1999). Whether or not changes from the prior art are "minor," they must be evaluated in terms of the whole invention including whether the prior art provides any teaching or suggestion to one of ordinary skill in the art to make the changes that would produce the patentee's method and device. Northern Telecom Inc. v. Datapoint Corp., 908 F.2d 931, 935 (Fed. Cir. 1990).

Relating to the third inquiry, a person of ordinary skill in the art is presumed to be one who thinks along the line of conventional wisdom in the art and is not one who undertakes to innovate, whether by patent and often expensive, systematic research or obviousness. Standard Oil Co. v. American Cyanamid, 774 F.2d 448, 454 (Fed. Cir. 1985). "[T]he level of skill in the art is a prism or lens through which a judge or jury view the prior art and the claimed invention. This reference point prevents deciders from using their own insight or, worse yet, hindsight, to gauge obviousness. Rarely, however, will the skill in the art component operate to supply missing knowledge or prior art to reach an obviousness judgment. Skill in the art does not act as a bridge over gaps in substantive presentation of an obviousness case, but instead supplies the primary guarantee of objectivity in the process."

Al-Site Corp. v. VSI Intern., Inc. 174 F.3d 1308, 1324 (Fed. Cir. 1999).

B. Rejection under 35 U.S.C. § 103(a) over U.S. Patent No. 5,136,501 ("Silverman") in view of U.S. Patent No. 5,844,572 ("Schott")

1. Claims 1 and 86

a. The Silverman reference

Silverman describes a particular type of an anonymous matching system for trading instruments in which bids are automatically matched against offers for given trading instruments. (Col. 3, lines 18-20). Silverman addresses certain problems with respect to prior art matching systems: (1) None of these prior art matching systems implement the use of credit controls to determine the quantity of a permissible match at the lowest common credit limit and the best bid/ask price for the largest available quantity to automatically complete a match at trade in which real time prices are subject to real time credit; (2) No prior art matching systems are known in which an anonymous "more quantity" bid may be

employed for additional orders at the same price; (3) No prior art matching systems are known in which directed messages are employed between the keystations in the system and the central system to update the local entry order data bases and broadcast messages are employed to update the keystation book with is a restricted subset of the host or central system book; and (4) None of these prior art systems employ summary books at the local keystations as subsets of the host or central system book. (Col. 1, line 64 – Col. 2, line 16).

To address these problems, Silverman describes a computerized exchange in which its central role is to identify a buyer and a seller who are willing to trade with one another based on specified criteria, such as price, quantity and credit, with real time prices preferably being subject to real time credit. Thus, credit controls are used to determine the quantity of permissible match at the lowest common credit limit and the best bid/ask price for the largest available quantity to automatically complete a matched trade.

To support this computerized exchange, the matching system requires various support functions – one of which is the maintenance of summary market information on the participant's workstation or keystation displays at the various client sites. While Silverman's main focus and teaching is on the matching system, itself, Silverman makes limited, general passing references on what to actually display to the trader. To the extent Silverman teaches what to display to the trader, Silverman states:

Preferably in the system of the present invention, at all times the system will display the best inside price for every instrument traded on the system. The best inside price is preferably defined to be the highest value bid and the lowest value offer in the system. Preferably the prices are displayed together with the quantity bid or offered at the specified price so that the trader at the keystation can observe the market activity. (Col. 6, lines 47 – 60).

Silverman further describes that by "observing the market activity, the trader can decide whether to enter a bid, or enter an offer into the market in an effort to complete a matching transaction." (Col. 6, lines 61-63). The trader interacts by submitting bid, offer, hit, or take transactions. (Col. 6, line 66 – Col. 7, line 2). Silverman describes order entry as:

The order entry function is preferably *conventionally* achieved through data entry using a conventional keyboard, pointing device such as a mouse or any other conventional data entry tool. (Col. 7, lines 2-5). [Emphasis added].

The central system validates the transaction request, processes the bid, offer, hit, or take according to the rules of the market, and attempts to find matches between this new entry and the other bids and offers posted in the system book, subject to gross counterparty credit limits between the potential counterparties to a potential matching transaction. If a match is found, and satisfies all criteria, the participants to the trade are informed, all databases and the trader screens are updated as to the quantities traded and the quantities remaining. (Col. 7, lines 5-20).

Silverman uses FIG. 4, which is "an illustrative diagram of a logical model of a book market...at the central system," and FIG. 5, which is "an illustrative diagram similar to FIG. 4 illustrating a typical keystation book as a subset of the central system book illustrated in FIG. 4." (Col. 5, lines 49-55). A book, as defined by Silverman, is "the repository for bids/offer information of a particular trading instrument." (Col. 12, lines 33-48). The boxes in FIGs. 4 and 5 illustrate database entries that are used to generate central and local keystation book databases, respectively. (Col. 9, line 46 et seq). FIGs. 13 – 18 are similar diagrams to FIGs. 4 and 5 illustrating various operational situations that might occur as a result of the matching system. The logical models are not taught or suggested as graphical user interfaces, but rather show logical models of a book database at the central system and of a book database at a keystation, which is a subset of the central station's book database; the data content of these logical models may be used in a trading display (e.g., the best prices and quantities). (Col. 4, line 66-Col. 5, line 4).

c. The Schott Reference

Schott describes altering data by manipulation of representational dynamic graphs. Specifically, the method and apparatus of Schott provide for using dynamic graphs wherein the computer user is able to manipulate the graph shape directly, which in turn not only modifies the graph, but also alters the corresponding and underlying tabularized data, as well as any associated numeric representations of the data that may be presented to the computer user. (Col. 11, lines 31-67). Figs. 19a and 26a in Schott illustrate two separate examples cited by the Examiner. Fig. 19a is an illustration of cells of a spreadsheet having data and a dynamic input bar graph, where the bar graph corresponds to the data of the spreadsheet. Fig. 26a is an illustration of cells of a spreadsheet having data and a dynamic input pie graph, where the pie graph corresponds to the data of the spreadsheet.

Schott addresses the problems associated with computer keyboard entry of data, and provides a way for users to alter their data and modify the interrelationship between associated data by intuitive manipulation of representational graphs – instead of changing the graph shape by keyboard data entry (e.g., such as typing data into a spreadsheet causing the graph shape to change). (Col. 1, line 44 to Col. 2, line 3).

d. The Combination Lacks the Limitations

While the focus is not merely of the differences between the claimed invention and the prior art, but on the claimed subject matter "as a whole," it may be useful to view the differences to place the obviousness analysis into proper perspective. It is also useful to note that throughout the rejection of the presently pending claims, the Examiner has used Silverman and the logical models shown in the figures as teaching a "method of displaying bid/offer information" (which is described more in the next section below). Appellants' respectfully submit that Silverman does not teach how or what to display, outside of a few passing references in the specification – most of which is shown in the inset quote above referring to Col. 6, lines 47 - 60 in Silverman. Silverman does not describe or teach the logical models as graphical user interfaces, and it is impermissible to manufacture Silverman to include those teachings. However, even to go as far as to assume that Silverman teaches what the Examiner suggests, taken together, the Silverman/Schott references still lack the limitations set forth in Claim 1.

First, they do not teach "displaying a plurality of bid indicators" and "displaying a plurality of ask indicators" at locations along a "first scaled axis of values" corresponding to a value associated with the bid or offer. While it is impermissible for the Examiner to use Silverman's logical models as graphical user interfaces, because Silverman does not make such teaching, the figures themselves lack a "scaled axis of values." In other words, even if the logical models were taught as graphical user interfaces, they still lack "a scaled axis of values," because the only prices shown are those that correspond to entries made in the market; there is no scaling to show prices where no orders exists. So, if another entry was added at a price that is different from any other existing entry, then the existing entries must be moved to accommodate the new entry (e.g., Fig. 14 of Silverman illustrates one such example). Additionally, as a result of not showing a "scaled axis of values" Silverman cannot effectively support the limitation of moving an "order icon" to "a value" along the "scaled

axis of values," because this would drastically inhibit order placement – orders could only be placed where entries are currently made in the market – and is contrary to Appellants' invention of "facilitating the placement of an order" and the "scaled axis" limitation. Schott shows an ordinary axis as used in a chart (e.g., Fig. 19A of Schott shows an axis), but not for use in displaying bids and offers in an electronic trading system.

Second, the Silverman/Schott references do not show "displaying an order icon associated with an order by the user for a particular quantity of the item..." Indeed, the keystation book of Silverman contains only aggregate order quantity (mixing orders by the user with orders in the market), and as a result, Silverman does not teach displaying an order icon associated with an order by the particular user. (E.g., at Col. 10, lines 35-39, Silverman states: "the keystation book is a summary book which contains accumulated summaries of bids at the same price and offers at the same price."). Because Silverman fails to teach the display of an "order icon," then it also fails to teach "an order by the user for a particular quantity of the item," such as called for in Appellants' Claim 1. Schott also fails to teach any of these limitations.

Third, the Silverman/Schott references do not show "in response to a user initiated command, moving the order icon to a location associated with a value along the first scaled axis of values." Appellants submit that Silverman does not teach how orders are placed through a graphical user interface, except for the "order entry function is preferably conventionally achieved through data entry using a conventional keyboard, pointing device such as a mouse or any other conventional data entry tool." (Col. 7, lines 2-5). Silverman does not teach the Appellants' rather particular way of choosing a value for "an order by the user." Neither reference teaches an "order icon" nor neither reference teaches the ability of "moving the order icon" to a location associated with a value along a "scaled axis of values."

Thus, even assuming Silverman teaches what the Examiner suggests, the combination of the Silverman/Schott references is missing many limitations found in Appellants' Claim 1. The same reasoning also applies to Appellants' independent Claim 86, which mirrors the limitations found in Claim 1. Because every limitation of Claim 1 (and Claim 86) is not found in the prior art, there cannot be an obvious showing under 35 U.S.C. § 103(a).

e. No Suggestion to Combine or Modify

Not only do the Silverman/Schott references lack many of the limitations of Appellants' Claim 1 and Claim 86, there is no desirability or suggestion that would have led a person of ordinary skill in the art to combine or modify the references in the manner claimed. Recall that Claim 1 is directed towards a method for "facilitating the placement of an order for an item and for displaying transactional information to a user...." According to Claim 1, an "order icon" can be moved to a location associated with a value along the scaled axis to facilitate placement of an order. Claim 1 taken as a whole provides an advantage over the prior art because it gives the user the ability to move an "order icon" representing his or her own order to a different value in a display of market bids and offers positioned along a "scaled axis of values." The same applies for Claim 86.

The focus of Silverman was a matching system. Very little of Silverman, with the exception of the quoted segments above, dealt with what to display and order placement; and with respect to order placement, even that exception stated the preferred use of conventional means. The limitations found in Appellants' Claim 1 including its use of a moveable "order icon" is not conventional. Even the Examiner stated in the Office Action of 9/15/04 "Silverman does not specifically disclose the newly claimed limitations of positioning of indicators along a scaled axis of values corresponding to an associated value or, in response to a user initiated command, moving an indicator (icon) to a location on the axis." Appellants respectfully submit that Silverman would not lead one of ordinary skill, at the time of invention, to invent a whole new way of integrating the display of bids/offers and order facilitation, let alone lead one of ordinary skill to Schott to do so. Schott teaches how to change data in a spreadsheet by manipulating a related chart; Appellants' seriously question whether one of ordinary skill in the art would even look to Schott as the reference does not logically commend itself to the Appellants' particular problem or purpose. Nonetheless, giving the Examiner the benefit of the doubt in this instance, even if one of ordinary skill would have Schott in his or her view at the time of Appellant's invention, he or she would not come to the Appellants' same conclusion, because the prior art, including Silverman, did not encourage such a departure from the conventional way of order entry. So, the person of ordinary skill would not be motivated by the combination of Silverman and Schott to make the combination and modifications suggested by the Examiner.

In making the rejection, the Examiner stated the following motivation to combine:

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of displaying bid/offer information of Silverman to include the manipulation of information along a scaled axis disclosed by Schott because this would have allowed dynamic creation of orders, reconfiguration of the graphical representations according to manipulation of the graph and simple and easy modification of underlying order data. Such capacity would allow users to readily perceive the status of a market and participate in the market efficiently through quick manipulation of their particular order information.

The Examiner has stated that this motivation is "independently derived;" however, this independent derivation is completely unfair and wrong, as it is not supported by any evidence (See, e.g., In re Zurko, 258 F.3d 1379, 1385, 59 USPQ2d 1693, 1697 (Fed. Cir. 2001); Ahlert, 424 F.2d at 1092, 165 USPQ at 421.), and in doing so has gone outside the boundaries of the obviousness standard. No person of ordinary skill at the time of invention, looking to the prior art including Silverman/Schott (again, even assuming that Schott is analogous and one of ordinary skill would even look to Schott), would share this independently derived motivation unless he or she used Appellants' innovative invention as a blueprint. It would require not only hindsight, but also innovation on the part of the person of ordinary skill, which is entirely impermissible. Appellants' respectfully submit that nothing in those references teach such a combination and a modification (recall from above that combining the references is not enough because they lack many of the same limitations and the references would still require drastic modification). Just the opposite, the natural flow from Silverman would be to leave the order placement alone and keep it conventional. Indeed, trading screens have been around for decades before Appellants' invention, yet the Examiner can still find no reference that remotely suggests the desire or gives the user some ability to move an "order icon" representing his or her own order to a different value in a display of market bids and offers positioned along a "scaled axis of values."

One of ordinary skill would also be taught away from the modifications suggested by the Examiner upon a more detailed reading of Silverman. Silverman states "...at all times the system will display the best inside price for every instrument traded on the system..."

[Emphasis added]. While little instruction was given by Silverman on the actual display of market information, it appears the emphasis was on conveying information (especially the

inside price – best bid/offer) in a relatively compact manner so that inside prices for every instrument can be viewed by the user – a characteristic often found in traditional style trading displays. Even assuming Silverman teaches what the Examiner suggests, the logical models shown in the figures of Silverman would simply take up too much screen space to display information for *every* instrument as one logical model represents a book for only one instrument. Also, the logical models show no order entry capability, let alone, show a way that would give a user control over an "order icon" representing the user's own order; instead the logical model at the keystation shows only consolidated order summaries with no attempt to distinguish between the user's own order from other orders in the market.

Additionally, without more, the Examiner's "independently derived" motivation is not enough. Something in the prior art as a whole must suggest the desirability, and thus the obviousness, of making the combination or modification. The Examiner already noted that Silverman does not show displaying bid and offer indicators along a scaled axis, or in response to a user initiated command, moving an icon associated with an order on the axis. Not only did Silverman not show those limitations, but there was no suggestion or desire to modify Silverman to have them. This proposed modification would, in fact, change the principle operation of Silverman because the keystation book in Fig. 5, for example, is only a copy of the host book in Fig. 4, and the keystation book gets updated periodically over a network only by the host book. In fact, the keystation book illustrated in Silverman's Fig. 5 shows only the aggregate primary quantities at each price rather than individual orders. (e.g., a primary quantity of "9" at "1.39.19" in Fig. 5 compared to two separate quantity entries of "6" and "3" at "139.19" in Fig. 4). Thus, because the user only sees aggregate quantities (this is even making the impermissible assumption that these logical models are even taught as displays), there would be no way for a user to modify individual orders using the keystation book. In other words, Silverman could not support the Examiner's proposal. Therefore, a user could not move the user's order as called for by Applicants' Claim 1. According to MPEP 2143.01, the proposed modification cannot change the principle operation of a reference, otherwise the teachings of the references are not sufficient to render the claims obvious. In re Ratti, 270 F.2d 810. Here, the Examiner's proposed modification changes the principle operation of Silverman, and therefore, for at least this reason, the proposed modification cannot render Claim 1 obvious.

2. Claims 2 and 67

Claims 2 and 67 are dependent claims that depend from independent Claim 1. Claims 2 and 67 are patentable because all the reasons showing the non-obviousness of independent Claim 1 apply to Claims 2 and 67. Furthermore, Claims 2 and 67 are separately patentable and do not stand or fall with Claim 1.

With respect to Claim 1, Appellants have already stated that an "order icon" representing a user's own order that is moveable to a different value along "a scaled axis of values," in which bids and offers are also displayed in reference to, is not shown in the prior art. Reading Silverman, one of ordinary skill would be led down the path of conventional order entry – nothing in Silverman would lead one of ordinary skill to look at Schott and go down the path taken by the Appellants.

Claim 2 further calls for an "order icon" that is adjustable by the user to reflect the quantity of the order. Not only can the order icon be moved to a value along the scaled axis, but according to Claim 2, it can also be adjusted to reflect another order parameter – namely, "quantity of the order." Claim 67 calls for associating the size of the order icon with the quantity of the order.

In making the rejection, however, the Examiner states that "It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the user manipulation of underlying data disclosed by Schott in the invention of Silverman because this would have allowed a user to understand the relative size of the orders through greater or lesser visual impact based on the user controlled size." (Office Action of 4/21/05, on Page 4). Appellants' submit, however, that there is no evidence to indicate this kind of motivation or suggestion in the prior art, without hindsight or innovation on the part of the person of ordinary skill. In other words, looking to the teachings of Silverman/Schott, one of ordinary skill would not be motivated to use "size" of an order icon to indicate quantity for a user's own order. Silverman does not teach or suggest using "size" of an order icon to indicate quantity for a user's own order. Even the entries in the logical models of Silverman are all the same size. Besides, as previously stated, Silverman teaches conventional order entry and does not even teach an "order icon." While Schott teaches resizing some graphical elements like a pie chart, there is no motivation or desirability in the prior art to apply resizing to "an order icon" in a graphical user interface

used for trading. Thus, without any suggestion or motivation in the prior art, one of ordinary skill - one who follows conventional logic - would not use the teachings in Schott and Silverman to develop the invention called for by Claim 2.

3. Claim 4

Claim 4 is a dependent claim that depends from independent Claim 1. Claim 4 is patentable because all the reasons showing the non-obviousness of independent Claim 1 apply to Claim 4. Additionally, Claim 4 is separately patentable and does not stand or fall with Claim 1, because in addition to the limitations found in Claim 1, Claim 4 calls for "receiving a request for an order responsive to a user action specifying a quantity of the item and value for the order."

4. Claims 10, 61, and 62

Claims 10, 61, and 62 are dependent claims that depend from independent Claim 1. Claims 10, 61, and 62 are patentable because all the reasons showing the non-obviousness of independent Claim 1 apply to Claims 10, 61, and 62. Furthermore, Claims 10, 61, and 62 are separately patentable and do not stand or fall together.

Claim 10 calls for displaying the "order icon" with a "first visual characteristic" and displaying the bid and offer indicators corresponding to orders placed by "other users with a second visual characteristic." Claim 61 calls for "visually distinguishing" bid indicators from offer indicators. Claim 62 calls for "visually distinguishing" the order icon from the plurality of bid and offer indicators.

With respect to these Claims, contrary to the Examiner's suggestion, it is not old and well known to distinguish an "order icon associated with an order by the user" from bids and offers resting in the market. If it was so old and well known and given that trading screens have been around for quite some time before Appellants' invention, then the Examiner should be able to provide an instance where a moveable order icon representing a user's order is distinguished from bids and offers resting in the market (called for by Appellants' Claim 10 and 62). The Examiner failed to do that. The Examiner may not merely rely on an a perceived notion that common knowledge and common sense would

motivate one of ordinary skill in the art to combine references in a manner rendering the invention obvious without providing nonconclusory articulated reasoning to justify the alleged motivation. <u>In re Sang Su Lee</u>, 277 F.3d 1338, 1342-43 (Fed. Cir. 2002).

5. Claim 11

Claim 11 is a dependent claim that depends from independent Claim 1. Claim 11 is patentable because all the reasons showing the non-obviousness of independent Claim 1 apply to Claim 11. Furthermore, Claim 11 is separately patentable and does not stand or fall with Claim 1.

Claim 11 calls for displaying each of the bid and offer indicators having "an edge which is angled toward the first scaled axis of values."

Contrary to the Examiner's suggestion, it would not have been obvious to display each of the plurality of bid and offer indicators having an edge which is angled toward the first scaled axis of values, because Silverman does not teach a "scaled axis of values." Thus, even if the logical models were to be used as a graphical user interface, each entry shows it's own price – the entries are not located relative to a "scaled axis of values" and therefore having an edge would do those entries no good as they would not indicate any particular value.

6. Claims 12 and 16

Claims 12 and 16 are dependent claims that depend from independent Claim 1. Claims 12 and 16 are patentable because all the reasons showing the non-obviousness of independent Claim 1 apply to Claims 12 and 16. Furthermore, Claims 12 and 16 are separately patentable and do not stand or fall together.

Claims 12 and 16 call for receiving market information representing a new order to buy or sell a quantity of the item, generating a bid or offer indicator whose "size" corresponds to the quantity of the item bid or offered for, and placing the indicator at a location along a "scaled axis of values."

When looking at the prior art as a whole, there is nothing to suggest in response to the received market information, "generating a bid indicator whose size corresponds to the quantity of the item bid for" (Claim 12) and "generating an offer indicator whose size

corresponds to the quantity of the item for which the offer is made." Particularly, Claims 12 and 16 call for the placing of bid/offer indicators whose "size" corresponds to the quantity of the item bid for. The Examiner states "These Claims also recite the processes of receiving orders and generating icons for new bids or offers, which is taught by Silverman at Figs. 4, 14, and 16." The Appellants submit that this line of reasoning is not "clear and particular," because it does not provide the motivation to make the modification set forth in the clam. As previously stated, the logical models are not taught as displays in Silverman but are used for illustrating the logical operation of the system. Nevertheless, the logical models of Silverman do not show having bid/offer indicators whose "size" corresponds to the quantity. Indeed, the entries of the logical models in Silverman are all the same size. While Schott teaches different elements in the pie chart having different sizes for each element, there is no motivation or desirability in the prior art to apply such teaching to bids and offers. Applying this teaching to Silverman would result in using even more screen space, which would go against the teaching of Silverman to display "at all times the system will display the best inside price for every instrument traded on the system." Thus, without any suggestion or motivation in the prior art, one of ordinary skill would not use the teachings in Schott and Silverman to develop the invention called for by Claims 12 and 16.

7. Claim 18

Claim 18 is a dependent claim that depends from independent Claim 1. Claim 18 is patentable because all the reasons showing the non-obviousness of independent Claim 1 apply to Claim 18. Furthermore, Claim 18 is separately patentable and does not stand or fall together.

Claim 18 calls for "displaying a historical chart representing values of the time responsive to time and value." The third axis, representing value, is not required to be the same as the first axis.

The Examiner suggests that the additional limitation of a historical chart is old and well-known in trading markets and the presentation of such historical information would have been obvious because this would have allowed traders to gain understanding of market trends. Appellants contend that the focus is to be on the claim "as a whole." Appellants submit that trading charts have been around for quite some time prior to Appellants' invention, and yet even after all of that time, the Examiner cannot point to any evidence that

teaches or suggests the combination of a trading chart with a trading screen that is integrated with order placement. Historically, trading charts were separate and distinct from an order placement screen; the two were not so integrated. The prior art, including Silverman and Schott, taken together, do not suggest such a combination.

8. Claims 63, 64, and 70

Claims 63, 64, and 70 are dependent claims that ultimately depend from independent Claim 1. Claims 63, 64, and 70 are patentable because all the reasons showing the non-obviousness of independent Claim 1 apply to Claims 63, 64, and 70. Furthermore, Claims 63, 64, and 70 are separately patentable and do not stand or fall together.

Claim 63 calls for "...displaying a marker representing a value of interest at a location associated with a value on the first scaled axis of values." Claim 64 further limits Claim 63 by stating "...the location at which the marker is displayed is updated dynamically." Claim 70 calls for the marker to be a "line."

With respect to Claims 63 and 70, the Examiner states that it would have been obvious to "modify Silverman with a marker denoting a value of interest because this would draw a trader's attention to a need to perform some action." However, the Appellants respectfully submit that this reasoning is unsupported by Silverman, and again such reasoning is using hindsight and innovation on the part of a person of ordinary skill. As previously stated above, Silverman does not show a "scaled axis" and therefore such a marker would be rather useless.

Additionally, Claim 64 calls for a marker that is updated "dynamically." Appellants' specification on page 18, discloses examples of a marker, including a marker that is updated dynamically. For example, the marker 336, in Fig. 3a of Appellants' specification, is representative of a value quantifying metric specified by the trader. The value quantifying metric can be an algorithm or formula. Neither of the references teaches a dynamically updated marker.

9. Claim 65

Claim 65 is a dependent claim that depends from independent Claim 1. Claim 65 is patentable because all the reasons showing the non-obviousness of independent Claim 1

apply to Claim 65. Furthermore, Claim 65 is separately patentable and does not stand or fall together with Claim 1.

Claim 65 states: "... wherein the user initiated command comprises selecting the order icon using a pointer device and dragging the order icon to the location."

The Examiner states that Schott discloses selecting and dragging of an order icon at Col. 21, lines 1-30. Contrary to what the Examiner asserts, Schott does not disclose "selecting and dragging of an order icon." Rather, Schott teaches the creation of dynamic input line graphs, which has nothing to do with orders or order icons. Once again, the Appellants submit that it is impermissible to use hindsight without providing evidence supported by the prior art. As stated before, there is nothing in the prior art to suggest this motivation, and indeed, Silverman prefers *conventional* order entry. Selecting and dragging an order icon is not conventional or if it would be, then the Examiner could locate a more on point reference. Schott does not overcome this deficiency. For example, while Schott teaches manipulation of a graph, there is no motivation or desirability in the prior art that would lead one of ordinary skill to combine and modify the prior art teachings in the manner claimed.

10. Claim 66

Claim 66 is a dependent claim that depends from independent Claim 1. Claim 66 is patentable because all the reasons showing the non-obviousness of independent Claim 1 apply to Claim 66. Furthermore, Claim 66 is separately patentable and does not stand or fall together with Claim 1.

Claim 66 calls for "modifying the order icon based on a transaction."

Contrary to the Examiner's assertion, Silverman does not show an "order icon associated with an order by the user," and therefore cannot show "modifying" this order icon based on a transaction. Indeed, neither Silverman nor Schott teach or suggest this limitation and one of ordinary skill would not have modified them to read on this limitation.

11. Claim 68

Claim 68 is a dependent claim that depends from independent Claim 1. Claim 68 is patentable because all the reasons showing the non-obviousness of independent Claim 1

apply to Claim 68. Furthermore, Claim 68 is separately patentable and does not stand or fall together with Claim 1.

Claim 68 calls for the values on the "first scaled axis of values" to represent "price." Silverman does not show a "scaled axis of values," but rather logical models are used to illustrate the operation of a matching system. Furthermore, the only values shown in Silverman are the values at which entries have been made; the logical models do not show "a scaled axis" and cannot show the further limitation that the axis represents "price."

12. Claim 69

Claim 69 is a dependent claim that depends from independent Claim 1. Claim 69 is patentable because all the reasons showing the non-obviousness of independent Claim 1 apply to Claim 69, with the specific application to "commodities."

13. Claim 77 and 78

Claims 77 and 78 are dependent claims that depend from independent Claim 1. Claims 77 and 78 are patentable because all the reasons showing the non-obviousness of independent Claim 1 apply to Claims 77 and 78. Claim 77 calls for the further limitation of displaying the quantity of the item associated with the bid and offer indicator and Claim 78 calls for displaying the quantity of the order placed by the user.

14. Claims 79, 80, 81, 82

Claims 79, 80, 81, and 82 are dependent claims that depend from independent Claim 1. Claims 79, 80, 81, and 82 are patentable because all the reasons showing the non-obviousness of independent Claim 1 apply to Claims 79, 80, 81, and 82. Furthermore, Claims 79, 80, 81, and 82 are separately patentable and do not stand or fall together.

On page 17, starting at line 5 of Appellants' specification, contextual data is described by stating, "Contextual data comprises historical trading data of the item, historical or current trading data of other items, historical or current trading data of an average of items." Contrary to the Examiner's assertion (the Examiner states Silverman discloses contextual data at Fig. 5, "Display Depth of 3"), contextual data is separate from bids/offers, because on page 17, at line 9, the Appellants' state: "Viewing contextual data along with the

outstanding offers and bids allows the trader to better anticipate the market" [emphasis added]. Silverman and Schott do not show displaying contextual data along with the bids/offers. Additionally, it is not well known to display contextual data along with the bids/offers in a graphical user interface for order placement; and the prior art (outside of Appellants' specification) does not suggest the desirability of the modification. "The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification." In re Fritch, 972 F.2d 1260, 1266.

15. Claim 83 and 84

Claims 83 and 84 are dependent claims that depend from independent Claim 1. Claims 83 and 84 are patentable because all the reasons showing the non-obviousness of independent Claim 1 apply to Claims 83 and 84. Furthermore, Claims 83 and 84 are separately patentable and do not stand or fall together.

Claim 83 calls for a scaled axis that is "graduated in intervals such that each interval represents a particular value." Claim 84 calls for "displaying the values along the first scaled axis of values."

The Examiner asserts that it would have been obvious to modify Silverman to have a "graduated displayed axis." However, Silverman does not teach or suggest graphical user interfaces, let alone the desirability of using a graduated axis. As previously stated, there must be some indication in the prior art that would lead one of ordinary skill to modify the Silverman reference, and there is none for similar reasons as pointed out with respect to Claim 1. Additionally, even assuming that Silverman teaches what the Examiner suggests, without a scaled axis, Silverman's logical models have to include a price for each entry, otherwise there would be no way to view the value of the entries.

Unlike Silverman, Claim 1 has a scaled axis, so the act of displaying the values along the axis is not necessary because a user can determine the relative value between each bid/offer against a "scaled axis." Claim 84 further limits Claim 1 because it calls for "displaying the values" on the graphical user interface.

16. Claim 85

Claim 85 is a dependent claim that depends from independent Claim 1. Claim 85 is patentable because all the reasons showing the non-obviousness of independent Claim 1 apply to Claim 85. Furthermore, Claim 85 is separately patentable and does not stand or fall together with Claim 1.

Claim 85 calls for graphically representing the bid and offer indicators to the user as "icons."

Contrary to the Examiner's assertion, the logical models of Silverman are not intended to be used as graphical user interfaces – and one of ordinary skill in the art, upon reading Silverman, would not use them as such. Silverman sets forth in the specification some passing references on what to display to the trader – the reference does not teach or suggest using the logical models as a graphical user interface to the user. As a result, Silverman does not teach displaying the bid and offer indicators graphically as icons.

17. Claim 87, 88, and 89

The Examiner rejects independent Claim 87 over Silverman in view of Schott and in doing so states "see the discussion of Claim 1 and Silverman discloses a computer system running software at Figs. 1 and 2 and related text." Yet, Claim 87 calls for values that "represent a derivative of price for the item." Silverman does not teach or suggest a "derivative of price" and the Examiner does not address this limitation in the rejection. Repeatedly, the Appellants' requested the Examiner to correct the rejection, because Claim 87 has similar limitations to Claims 71-73, which was rejected in view of different art. However, because the rejection still stands, the Appellants will address this rejection here.

Claim 88, which is a dependent claim that depends from Claim 72, states: "... the derivative of price is an interest rate, a bond cost, an implied interest rate, or implied volatility of the item." Claim 89, which is a dependent claim that depends from Claim 87, states: "wherein the derivative of price is customizable."

With respect to Claims 87, 88, and 89, Silverman does not teach a "derivative of price;" indeed, Silverman states "Preferably in the system of the present invention, at all times the system will display the best inside *price* for every instrument traded on the system....Preferably the *prices* are displayed together with the quantity bid or offered at the

specified price so that the trader at the keystation can observe the market activity." (Col. 6, lines 47 - 60). As such, there is nothing in Silverman that would provide motivation or the desirability of displaying bids/offers along "a scaled axis of values such that the values represent a derivative of price."

Claims 87, 88, and 89 have similar limitations as those found in Claims 71-73, which ultimately depend from Claim 1. The Examiner rejected Claims 71-73 in view of Harrington (this rejection is addressed separately). In rejecting 87, the Examiner did not use the Harrington reference. Even if the Examiner applied Harrington in rejection of Claim 87, there still is no teaching or suggestion of displaying bids/offers along "a scaled axis of values such that the values represent a derivative of price." Please see the response to the rejection of Claims 71-76 below.

18. <u>Claim 90</u>

Independent Claim 90 contains similar limitations to that of Claim 1, and therefore, the same reasoning for patentability applies. However, Claim 90 calls for "displaying an order token associated with at least one preset order parameter; and in response to a user initiated command, moving the order token to a location associated with a desired value along the first scaled axis of values." As previously described, Figure 3a of Appellants' specification illustrates an example of an order token (e.g., offer token 324 and bid token 320). In the example of Figure 3a, the order tokens 320, 324 include at least two preset order parameters (e.g., whether it is a buy/sell and quantity). This particular embodiment, allows a trader to start the order entry process by selecting a token associated with at least one preset order parameter and move it to a value along the "scaled axis of values."

a. The Combination Lacks the Limitations

The Silverman/Schott references do not show "an order token" as called for and used by Appellants' Claim 90. Again, Silverman does not elaborate on how orders are placed through a graphical user interface (as previously stated, Silverman does not even teach a graphical user interface), except for the "order entry function is preferably conventionally achieved through data entry using a conventional keyboard, pointing device such as a mouse or any other conventional data entry tool." (Col. 7, lines 2-5). This description does not

teach this limitation. Schott does not show this limitation either.

Additionally, the Silverman/Schott references do not show "in response to a user initiated command, moving the order token to a location associated with a desired value along the first scaled axis of values." So, neither reference shows an "order token" and neither reference describes the ability of "moving the order token" to a location associated with a desired value along the first scaled axis of values.

b. No Suggestion to Combine or Modify

Not only do the Silverman/Schott references lack the limitations of Claim 90, there is no suggestion to combine or modify them such that would have led a person of ordinary skill in the art to combine the references in the manner claimed. Claim 90 taken as a whole provides an advantage over the prior art because it gives the user the ability to move an "order token" to a desired value in a display of market bids and offers positioned along a scaled axis of values.

As previously stated, Silverman preferred conventional order entry and would not have led a person of ordinary skill to invent the Appellants' "order token." The Examiner did not cite any new reasons for unpatentability of Claim 90, which calls for "an order token." Schott does not teach or suggest this limitation either.

19. Claim 91

Claim 91 is a dependent claim that depends from independent Claim 90. Claim 91 is patentable because all the reasons showing the non-obviousness of independent Claim 90 apply to Claim 91. Furthermore, Claim 91 is separately patentable and does not stand or fall together with Claim 90.

Claim 91 states: "...wherein the user initiated command comprises dragging the order token to the location."

The Examiner states that Schott discloses selecting and dragging of an order token at Col. 21, lines 1-30. Contrary to what the Examiner asserts, Schott does not disclose "selecting and dragging of an order token." Rather, Schott teaches the creation of dynamic input line graphs, which has nothing to do with orders or order tokens. Once again, the Appellants submit that it is impermissible to use hindsight without providing evidence supported by the prior art. As stated before, there is nothing in the prior art to suggest this

motivation, and indeed, Silverman prefers conventional order entry. Selecting and dragging an order token is not conventional or if it would be, then the Examiner could locate a more on point reference. Schott does not overcome this deficiency. For example, while Schott teaches manipulation of a graph, there is no motivation or desirability in the prior art that would lead one of ordinary skill to combine and modify the prior art teachings in the manner claimed.

20. Claims 92, 93, and 98

Claims 92, 93, and 98 are dependent claims that depend from independent Claim 90. Claims 92, 93, and 98 are patentable because all the reasons showing the non-obviousness of independent Claim 90 apply to these Claims. Furthermore, Claims 92, 93, and 98 are separately patentable and do not stand or fall together with Claim 90.

Claim 92 states: "...wherein the at least one preset order parameter comprises a quantity for an order to be sent." Claim 93 states: "...wherein the at least one preset order parameter comprises a bid type or an offer type." Claim 98 states: "...wherein the order token is associated with a plurality of preset order parameters."

In rejecting Claims 92 and 93, the Examiner simply states that "Silverman discloses quantities of bids and offers at Fig. 5." Appellants submit that bids and offers are not "order tokens." Silverman does not disclose "order tokens," and thus, it does not also disclose any specific preset order parameters such as a quantity, bid type, or offer type in association with an order token as claimed in Appellants 92, 93, and 98.

21. Claims 94 and 95

Claims 94 and 95 are dependent claims that depend from independent Claim 90. Claims 94 and 95 are patentable because all the reasons showing the non-obviousness of independent Claim 90 apply to these Claims. Furthermore, Claims 94 and 95 are separately patentable and do not stand or fall together with Claim 90.

Claim 94 states "wherein the order tokens represent an order to be sent, wherein the order to be sent would have order parameters equal to the at least one preset order parameters of the order token and a value equal to the desired value associated with the location the order token was moved to."

Claim 95 states "wherein an order having order parameters equal to the at least one preset order parameter of the order token and a value equal to the desired value is sent to a transaction server."

In rejecting Claim 94, the Examiner states "This is read as the familiar limit order." Appellants submit that the invention covered by Claim 94 is <u>not</u> a "limit order." Rather the claim is directed to a particular way for setting order parameters; Claim 94 calls for displaying an "order token" that can be moved to a location associated with a desired value along the first scaled axis of values, and the order would have order parameters equal to the "at least one present order parameter of the order token and a value equal to the desired value associated with the location the order token was moved to." The cited prior art shows no such ability to set order parameters.

Claim 95 further includes sending an order having parameters that are set in the manner of Claim 90.

22. Claim 96

Claim 96 is dependent claim that depends from dependent Claim 95. Claim 96 is patentable because all the reasons showing the non-obviousness of dependent Claim 95 apply to Claim 96. Furthermore, Claim 96 is separately patentable and does not stand or fall together with Claim 95.

Claim 96 states that "in response to being sent, the displayed order token becomes an order icon representing the user's own order for the item."

Silverman does not teach that "in response to being sent, the displayed order token becomes an order icon representing the user's own order for the item." The Examiner does not provide any particular details in the rejection, but the Appellants again submit that Silverman does not teach or suggest "order tokens" or "order icons."

23. Claim 97

Claim 97 is dependent claim that depends from independent Claim 90. Claim 97 is patentable because all the reasons showing the non-obviousness of independent Claim 90 apply to Claim 97. Furthermore, Claim 97 is separately patentable and does not stand or fall together with Claim 90.

Claim 97 calls for an "order token" that is adjustable by the user to reflect the quantity of the order. Not only can the order token be moved to a value along the scaled axis, but according to Claim 97 it can also be adjusted to reflect another order parameter – namely, "quantity of the order."

Silverman prefers conventional order entry. Adjusting an order token representing an order by the user to reflect a quantity is not conventional and is not taught by the prior art. Without hindsight reasoning, the Examiner cannot point to any part of Silverman or Schott that would lead one of ordinary skill down the Examiner's path of motivation.

C. Rejection under 35 U.S.C. § 103(a) over U.S. Patent No. 5,136,501 ("Silverman") in view of U.S. Patent No. 5,844,572 ("Schott") and further in view of U.S. Patent No. 6,188,403 ("Sacerdoti")

24. Claim 28

a. Sacerdoti

Sacerdoti describes a 3-dimensional graphics generation and display application that provides a visual display of information retrieved from a database. Sacerdoti's system addresses the needs of those who want to exploit their databases by using generators for ease in making animated, multi-dimensional graphics displays for presenting data in an easy to understand visual format. (See, e.g., Col. 2 lines 0-50).

b. The Combination Lacks the Limitations

Claim 28 is a dependent claim that depends from independent Claim 1. Claim 28 is patentable because all the reasons showing the non-obviousness of independent Claim 1 apply to Claim 28. Furthermore, Claim 28 is separately patentable and does not stand or fall together with Claim 1.

The limitations of Claim 28 include moving an "order token to a user specified location" with respect to a first scaled axis of values which corresponds to a desired value, "thereby enabling placing of the order in accordance with the desired value."

As explained above neither Silverman nor Schott, alone or in combination, discloses a method of moving order tokens. Sacerdoti fails to overcome this deficiency as well.

Sacerdoti fails to disclose or suggest displaying order tokens, or enabling placing of the order

in accordance with the desired value based on the location of the order token. Thus, the limitations of Claim 28 are also not found in Sacerdoti.

c. No Suggestion to Combine or Modify

The Applicants also disagree with the Examiner that Sacerdoti includes a motivation to combine the reference based on, what Examiner refers to as "common subject matter of trading." The Appellants respectfully submit that there is no motivation or desirability in the prior art to make the combination and modification suggested by the Examiner. Sacerdoti is missing the very same limitations that the other references are missing, and therefore it would require actual evidence providing a motivation or suggestion to make the combination and the modifications suggested by the Examiner to arrive at Appellants' Claim 28. Neither reference suggests the desirability or the motivation to make such a combination/modification. Thus, the Examiner failed to show proper suggestion or motivation to combine the reference teachings.

- D. Rejection under 35 U.S.C. § 103(a) over U.S. Patent No. 5,136,501 ("Silverman") in view of U.S. Patent No. 5,844,572 ("Schott") and further in view of U.S. Patent No. 6,161,099 ("Harrington")
 - 25. Claims 71, 72, 73, 74, 75, and 76

a. Harrington

Harrington discloses an apparatus and process for conducting auctions, specifically municipal bond auctions, over electronic networks. A user participates in the auction by accessing the web site via a conventional Internet browser and is led through a sequence of screens that perform the functions of verifying the user's identity, assisting the user in preparing a bid, verifying that the bid conforms to the rules of the auction, displaying to the user during the course of the auction selected bid information regarding bids received and informing the bidder how much time remains in the auction. Harrington addresses particular problems and needs of original issuer auctions of financial instruments, such as municipal bonds. (Col. 2, lines 49 et seq.).

b. The Combination Lacks the Limitations

The Examiner states "Silverman does not disclose a derivative of price as an interest rate. Harrington discloses interest rates as a derivate price mechanism for bonds at Col. 9, lines 40-55 and Fig. 15 ("[t]he user enters a coupon for each maturity and an aggregate purchase price, and at the Issuer's option, a price or yield for each maturity."). Appellants submit that Harrington (including the text above which was cited by the Examiner) would not lead one of ordinary skill to use a qualitative measure other than price to display bid and offer indicators as done by Claims 71, 72, 73, 74, 75, and 76. Thus, not only does Silverman not teach the limitations found in these claims, but Harrington also does not show such limitations.

c. No Suggestion to Combine or Modify

Moreover, there is no suggestion or motivation to modify the Silverman reference to include a "scaled axis" using a qualitative measure other than price to display bid and offer indicators as done by Claims 71, 72, 73, 74, 75, and 76. The Examiner's motivation is "this derivative would provide a valuation method for a bid which was more familiar in the bond auction art, i.e., true interest cost." This motivation does not rise to the level of "clear and particular" and it would not lead a person of ordinary skill to modify the references in the suggested manner. Appellants submit that there is nothing the Silverman and Harrington references that would suggest displaying bids and offers along a scaled axis that uses another qualitative measure other than price. Silverman does not suggest or teach graphical user interfaces, let along using a qualitative measure other than price, and Harrington does not suggest or teach displaying bids/offers using something other than price.

E. Conclusion

The rejection does not even set forth a *prima facie* case of obviousness because the references do not teach or suggest all of the elements of the present claims and, accordingly, there is no teaching, suggestion or motivation to make the proposed combination. For example, as stated above, Silverman does not even teach a graphical user interface as the Examiner suggests. With respect to order entry, Silverman, in fact, teaches away from the Examiner's proposed modifications, as Silverman teaches that the order entry function is

conventionally achieved. Additionally, Appellants seriously question whether Schott is analogous art. But, even assuming Silverman teaches what the Examiner suggests and that Schott is considered analogous art, the combination still lacks many of the claim elements. The other cited references also lack the same claim limitations. Also, as pointed out above, there is also no motivation or desirability to make the proposed combination and modifications required to make obvious Appellants' claims. To do so, would require impermissible hindsight and a great leap of innovation on the part of one of ordinary skill. Appellants respectfully submit that the outstanding rejection of the claims on obviousness grounds is in error and should be reversed.

VIII. Claims Appendix

1. A computer based method for facilitating the placement of an order for an item and for displaying transactional information to a user regarding the buying and selling of items in a system where orders comprise a bid type or an offer type, and an order is generated for a quantity of the item at a specific value, the method comprising:

displaying a plurality of bid indicators, each corresponding to at least one bid for a quantity of the item, each bid indicator at a location along a first scaled axis of values corresponding to a value associated with the at least one bid;

displaying a plurality of offer indicators, each corresponding to at least one offer for a quantity of the item, each offer indicator at a location along the first scaled axis of values corresponding to a value associated with the at least one offer;

displaying an order icon associated with an order by the user for a particular quantity of the item; and

in response to a user initiated command, moving the order icon to a location associated with a value along the first scaled axis of values.

- 2. The method of claim 1 wherein the order icon is adjustable by the user to reflect the quantity of the order.
- 4. The method of claim 1 further comprising:
 receiving a request for an order responsive to a user action specifying a quantity
 of the item and value for the order.
- 10. The method of claim 1 further comprising: displaying the order icon placed by the user with a first visual characteristic; and displaying the bid and offer indicators corresponding to orders placed by other users with a second visual characteristic.
- 11. The method of claim 1 further comprising:
 displaying each of the plurality of bid and offer indicators having an edge which is angled toward the first scaled axis of values.

12. The method of claim 1 further comprising:

receiving market information representing a new order to buy a quantity of the item for a specified value;

in response to the received market information, generating a bid indicator whose size corresponds to the quantity of the item bid for; and

placing the bid indicator at a location along the first scaled axis of values corresponding to the specified value of the bid.

16. The method of claim 1 further comprising:

receiving market information representing a new order to sell a quantity of the item for a specified value;

in response to the received market information, generating an offer indicator whose size corresponds to the quantity of the item for which the offer is made; and placing the offer indicator at a location along the first scaled axis of values corresponding to the specified value of the offer.

18. The method of claim 1 further comprising:

generating a second axis, perpendicular to the first scaled axis of values, representing time;

generating a third axis, perpendicular to the second axis, representing value; and displaying a historical chart representing values of the item responsive to time and value with respect to the second and third axes.

28. The method of claim 1 further comprising:

displaying a plurality of order tokens having different values;

receiving a selection for an order token; and

moving the order token to a user specified location with respect to the first scaled axis of values which corresponds to the desired value;

thereby enabling placing of the order in accordance with the desired value.

- 61. The method of claim 1 further comprising visually distinguishing bid indicators from offer indicators.
- 62. The method of claim 1 further comprising visually distinguishing the order icon from the plurality of bid and offer indicators.
- 63. The method of claim 1 further comprising displaying a marker representing a value of interest at a location associated with a value on the first scaled axis of values.
- 64. The method of claim 63 wherein the location at which the marker is displayed is updated dynamically.
- 65. The method of claim 1 wherein the user initiated command comprises selecting the order icon using a pointer device and dragging the order icon to the location.
- 66. The method of claim 1 further comprising modifying the order icon based on a transaction.
- 67. The method of claim 1 wherein the size of the order icon is associated with the quantity of the order.
- 68. The method of claim 1 wherein the values on the first scaled axis of values represent price.
- 69. The method of claim 1 wherein the item comprises a commodity.
- 70. The method of claim 63 wherein the marker comprises a line.
- 71. The method of claim 1 wherein the values on the first scaled axis of values represent a qualitative measure other than price.

- 72. The method of claim 71 wherein the qualitative measure represents a derivative of price.
- 73. The method of claim 72 wherein the derivative of price is an interest rate, a bond cost, an implied interest rate, or implied volatility of the item.
- 74. The method of claim 71 wherein the qualitative measure represents any metric by which an item can be valued.
- 75. The method of claim 71 wherein different qualitative measures can be chosen by the user.
- 76. The method of claim 71 further comprising receiving a command to select a new qualitative measure and updating the display of the plurality of bid indicators and the plurality of offer indicators to locations along the first scaled axis of values corresponding to values associated with the new qualitative measure.
- 77. The method of claim 1 wherein the bid indicator displays the quantity of the item associated with the bid and the offer indicator displays the quantity of the item associated with the offer.
- 78. The method of claim 1 wherein the order icon displays the quantity of the order placed by the user.
- 79. The method of claim 1 further comprising displaying contextual data along with the plurality of bid and offer indicators.
- 80. The method of claim 79 wherein the contextual data is displayed as a historical chart along the first scaled axis of values.

- 81. The method of claim 79 wherein the contextual data is displayed as a volume graph.
- 82. The method of claim 79 wherein the contextual data indicates the high and low values of the item for a period of time.
- 83. The method of claim 1 wherein the first scaled axis is graduated in intervals such that each interval represents a particular value.
- 84. The method of claim 1 further comprising the step of displaying the values along the first scaled axis of values.
- 85. The method of claim 1 wherein the each of plurality of bid and offer indicators are graphically represented to the user as icons.
- 86. A computer readable medium having program code recorded thereon for execution on a computer for displaying transactional information to a user regarding the buying and selling of items in a system where orders comprise a bid type or an offer type, and an order is generated for a quantity of an item at a specific value, the method comprising:

a first program code for displaying a plurality of bid indicators, each corresponding to at least one bid for a quantity of the item, each bid indicator at a location along a first scaled axis of values corresponding to a value associated with the at least one bid;

a second program code for displaying a plurality of offer indicators, each corresponding to at least one offer for a quantity of the item, each offer indicator at a location along the first scaled axis of values corresponding to a value associated with the at least one offer;

a third program code for displaying an order icon associated with an order by the user for a particular quantity of the item; and

a fourth program code for, in response to a user initiated command, moving the order icon to a location associated with a value along the first scaled axis of values.

87. A computer based method for displaying transactional information to a user regarding the buying and selling of items in a system where orders comprise a bid type or an offer type, and an order is generated for a quantity of the item at a specific value, the method comprising:

displaying a plurality of bid indicators, each corresponding to at least one bid for a quantity of the item;

displaying a plurality of offer indicators, each corresponding to at least one offer for a quantity of the item;

wherein the plurality of bid indicators and the plurality of offer indicators are displayed at locations corresponding to values along a scaled axis such that the values represent a derivative of price for the item.

- 88. The method of claim 72 wherein the derivative of price is an interest rate, a bond cost, an implied interest rate, or implied volatility of the item.
- 89. The method of claim 87 wherein the derivative of price is customizable.
- 90. A computer based method for facilitating the placement of an order for an item and for displaying transactional information to a user regarding the buying and selling of items in a system where orders comprise a bid type or an offer type, and an order is generated for a quantity of the item at a specific value, the method comprising:

displaying a plurality of bid indicators, each corresponding to at least one bid for a quantity of the item, each bid indicator at a location along a first scaled axis of values corresponding to a value associated with the at least one bid; and

displaying a plurality of offer indicators, each corresponding to at least one offer for a quantity of the item, each offer indicator at a location along the first scaled axis of values corresponding to a value associated with the at least one offer;

displaying an order token associated with at least one preset order parameter; and

in response to a user initiated command, moving the order token to a location associated with a desired value along the first scaled axis of values.

- 91. The method of claim 90 wherein the user initiated command comprises dragging the order token to the location.
- 92. The method of claim 90 wherein the at least one preset order parameter comprises a quantity for an order to be sent.
- 93. The method of claim 90 wherein the at least one preset order parameter comprises a bid type or an offer type.
- 94. The method of claim 90 wherein the order token represents an order to be sent, wherein the order to be sent would have order parameters equal to the at least one preset order parameter of the order token and a value equal to the desired value associated with the location the order token was moved to.
- 95. The method of claim 90 wherein an order having order parameters equal to the at least one preset order parameter of the order token and a value equal to the desired value is sent to a transaction server.
- 96. The method of claim 95 wherein, in response to being sent, the displayed order token becomes an order icon representing the user's own order for the item.
- 97. The method of claim 90 wherein the size of the order token is adjustable by the user to reflect the quantity of the order to be sent.
- 98. The method of claim 90 wherein the order token is associated with a plurality of preset order parameters.

X

None.

X. Related Proceedings Appendix

None.

Respectfully submitted,

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Robert J. Irvine Reg. No. 41,865



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This is in response to the Pre-Appeal Br	rief Request for f	Review filed 10/	<u>/19/05</u> .	
 Improper Request – The Recreason(s): 	quest is imprope	r and a confere	nce will not be held fo	or the following
☐ The Notice of Appeal has not included a proposed amendment is i ☐ Other:	le reasons why a	review is appr	opriate.	quest.
The time period for filing a response the mail date of the last Office comments.				
2. Proceed to Board of Patent held. The application remains unde is required to submit an appeal brie brief will be reset to be one month frunning from the receipt of the notic appeal brief is extendible under 37 of the notice of appeal, as applicable	r appeal because f in accordance verom mailing this de of appeal, which CFR 1.136 base	e there is at lease with 37 CFR 41 decision, or the chever is greate	st one actual issue fo .37. The time period for balance of the two-mer. Further, the time p	r appeal. Applicant for filing an appeal nonth time period eriod for filing of the
	the status of the	claim(s) is as f	follows:	
Claim(s) allowed: Claim(s) objected to:		、 ,		
Claim(s) rejected: 1,2,4,10-1'2 Claim(s) withdrawn from consi		<u>61-98</u> .		
3. Allowable application – A confidence will be mailed. Prosecution applicant at this time.	onference has be on on the merits	en held. The re remains closed	ejection is withdrawn a l. No further action is	and a Notice of required by
4. ☐ Reopen Prosecution – A coraction will be mailed. No further act				nd a new Office
All participants:			<i>a</i> \w	
(1) Vincent Millin.		(3)Richard	Weisherger	

U.S. Patent and Trademark Office

(2) <u>Charles Kyle</u>.

Part of Paper No. 01/24/06

OCT 19 2005 Dock Code: AP.PRE.REQ

Approved for use through xx/xx/200x. OMB 0651-00xx U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE 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. Docket Number (Optional) PRE-APPEAL BRIEF REQUEST FOR REVIEW 03-1106 Filed **Application Number** 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 "Mail Stop AF, Commissioner for in an envelope addressed to Mail Stop of , Commission 1978 (37 CFR 1-8(e)) Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1-8(e)] 09/289,550 April 9, 19990 Qctober 19, 2005 First Named Inventor Signature, Richard W. Friesen Art Unit Examiner Typed or printed Joseph A. Herndon 3624 Kyle name Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request. This request is being filed with a notice of appeal. The review is requested for the reason(s) stated on the attached sheet(s). Note: No more than five (5) pages may be provided. I am the applicant/inventor. Signature assignee of record of the entire interest. Joseph A. Herndon See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. Typed or printed name (Form PTO/SB/96) attorney or agent of record. 50,469 t, ded Registration number Telephone number attorney or agent acting under 37 CFR 1.34. October 19, 2005 Date Registration number if acting under 37 CFR 1.34 NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required.

*Total of ______ forms are submitted.

Submit multiple forms if more than one signature is required, see below*.

This collection of information is required by 35 U.S.C. 132. 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, 1.14 and 41.6. 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: Mail Stop AF, 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.

OIPE 4005 W

UNITED STATES PATENT AND TRADEMARK OFFICE (Case No. 03-1106)

	PLICATION OF: ard W. Friesen et al.)		
Serial No.	09/289,550)	Examiner: (Charles R. Kyle
Filed:	04/09/1999)	Group Art U	nit: 3624
Гitle:	User Interface For Electronic Trading System)		

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Mail Stop AF Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Dear Examiners:

In response to the Advisory Action of August 16, 2005, the Applicants respectfully request review of the rejections of Claims 1, 2, 4, 10-12, 16, 18, 28, and 61-98. The following remarks are based on those presented in Applicants' RCE Remarks of April 1, 2004, ("Response 1"), Response of December 14, 2004, ("Response 2"), and Response of June 21, 2005, ("Response 3").

REMARKS

Applicants' presently claimed invention relates to a graphical user interface for electronic trading systems. In this pre-appeal brief, Applicants submit that a prima facie case of obviousness has not been shown because neither of the cited references show all of the claimed limitations, there is no motivation or suggestion to combine the references outside of the Examiner's "independently derived motivation," and combining them would not even result in the claimed invention. Applicants respectfully request reconsideration.

First Rejection under 35 U.S.C. § 103(a)

The Examiner's first rejection¹ included independent claims 1, 86, 87, and 90 under 35 U.S.C. § 103(a) as being unpatentable over US 5,136,501 to Silverman ("Silverman") in view of US 5,619,631 to Schott ("Schott"). Claims 86 and 90 have limitations that mirror the limitations found in Claim 1 and are patentable for similar reasons as Claim 1. With respect to independent Claim 87 and in spite of

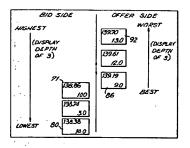
¹ On page 2 of the Final Office Action of April 21, 2005, the Examiner rejected Claims 1, 2, 4, 10-12, 16, 18, 61-70 and 77-98 as being unpatentable over Silverman in view of Schott.

Applicants' repeated remarks to correct the rejection, the Examiner continues to reject Claim 87 and directs us to the discussion of Claim 1.² However, Claim 1 does not show the limitations of Claim 87.³ Instead, Claim 87 has similar limitations to Claim 72, which was rejected in view of different art. Applicants will therefore address Claim 87 separately in light of that art.

Claim 1 is directed to the displaying of an order icon that represents a user's order to buy or sell an item in the display of bid indicators and offer indicators positioned along a scaled axis.⁴ According to Claim 1, the order icon can be moved to a location associated with a value along the scaled axis to facilitate placement of an order. Applicants submit that Claim 1 taken as a whole provides an advantage over the prior art (including the Silverman and Schott references) because it gives a user the ability to move an order icon representing his or her own order to a different value in a display of market bids and offers positioned along a scaled axis. Applicants know of no prior art reference that shows such limitations or a combination of elements or provides motivation to provide such features.

Silverman teaches an anonymous matching system through the use of logical models to illustrate the book market employed in the matching system.⁵ The logical models referred to by the Examiner are not graphical user interfaces and it is impermissible to use them as displays. Instead, FIG. 4 of Silverman shows a logical model of a book database at the central system and FIG. 5 shows

FIG. 5



logical model of a book database at a keystation, which is a subset of the central station's book database. The boxes in FIGs. 4 and 5 are not indicators and cannot be used to teach indicators in a display as the Examiner asserts. Rather, the boxes illustrate database entries that are used by the Silverman's system to generate central and local keystation book databases, respectively. In spite of the logical models not being displays, the Examiner uses them in making the rejection of Applicants' display claims. When even making this impermissible

assumption, the figures lack many claim limitations. The logical models only show bid and ask database entries at the prices where orders have been entered, and therefore, the Applicants agree with the Examiner's statement that Silverman does not disclose "the limitations of positioning of indicators along a scaled axis of values corresponding to an associated value." Also, the logical models do not

² On page 12 of Response 2, Applicants' bring this mistake to the Examiner's attention for the first time.

³ On page 9 of the Final Office Action of April 21, 2005, when rejecting Claim 72 – which calls for similar limitations as Claim 87 - the Examiner states that neither Silverman nor Schott show this limitation.

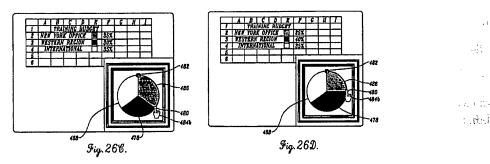
⁴ Presently pending Claim 1 is on page 2 of Response 3. Applicants review Claim 1 on page 10 of Response 3.

⁵ Applicants' review of Silverman is found in the last paragraph starting on page 13 of Response 1.

⁶ On page 3 of the Final Office Action, the Examiner states that Silverman "does not specifically disclose the limitations of positioning of indicators along a scaled axis of values corresponding to an associated value or, in response to a user initiated command, moving an indicator (icon) to a location on the axis."

distinguish a user's own order from those entered by other users.⁷ Applicants contend that because Silverman does not show indicators along a scaled axis, does not distinguish a user's own order, then it follows that Silverman does not also show, "in response to a user initiated command, moving an indicator to a location on the axis," as admitted by the Examiner.

Schott teaches data manipulation of representational dynamic graphs. A user is able to manipulate a graph shape directly, which in turn not only modifies the graph, but also alters the corresponding and underlying tabularized data. The Examiner turns to Schott to teach what Silverman is lacking, namely, the positioning of bid/offer indicators along a scaled axis of values and the moving of the order icon associated with the user's own order. The Examiner asserts that the dynamic bar graph of Fig. 19A shows the scaled axis of values. Applicants contend that Schott does not show Applicants' "scaled axis of values," in which the values of the scaled axis are based on values associated with at least one bid and at least one offer. Additionally, the Examiner refers to Figs. 26A-26F (Figs. 26C and 26D are shown below to illustrate that a change in the pie chart makes an automatic change in the spreadsheet) whereby changing the size of one section of a pie chart will also change the corresponding number in the spreadsheet. With reference to these figures, the Examiner makes a general assertion that Schott teaches the moving of an order icon on a scaled axis of values called for in Applicants' Claim 1. Yet, Applicants submit that Schott makes no reference to, or mention whatsoever of, facilitating placement of an order to buy/sell an item by moving the order icon to a location along the first scaled axis of values.



Applicants submit that Silverman and Schott, taken alone, or in combination, do not describe or suggest the limitations of Claim 1. Neither reference teaches to display bid/offer indicators, nor do they teach the display of bid/offer indicators along a scaled axis of values. Neither reference shows displaying an order icon associated with a user's order for a particular quantity of the item. Neither reference shows moving the order icon to a location associated with a value along the scaled axis of

⁷ Applicants review of this issue can be found on page 15 of Response 1.

⁸ Applicants review of Schott is found in the last paragraph at the bottom of page 10 of Response 2 and in the first paragraph on page 12 of Response 3.

values. The Examiner did not show otherwise, and therefore, each of the limitations of Claim 1 are not found in the prior art, which is required to make a prima facie case of obviousness.⁹

Additionally, the Examiner failed to show a proper suggestion or motivation to modify or combine the reference teachings. While combining the references would not lead to Applicants' claimed invention (both lack the same limitations as stated above), neither reference shows motivation for making the modification suggested by the Examiner. Furthermore, no reference suggests the desirability of providing this type of graphical control over a user's own order in the display of bids/offers. Indeed, the Examiner has stated that no motivation exists outside of the Examiner's own, "independently derived motivation" to combine the references. However, because the Examiner did not provide any evidence to support this independent derivation, the Examiner's independently derived motivation cannot stand. Description of the examiner of the examiner of the examiner's independently derived motivation cannot stand.

Second Rejection under 35 U.S.C. § 103(a)

The Examiner's second rejection included Claim 28 under 35 U.S.C. §103(a) as being unpatentable over Silverman, in view of Schott and further in view of US 6,188,403 given to Sacerdoti et al. ("Sacerdoti"). Claim 28 depends from Claim 1, and hence adds a further limitation to Claim 1. The limitations of Claim 28 include moving an order token to a user specified location with respect to a first scaled axis of values which corresponds to a desired value, thereby enabling placing of the order in accordance with the desired value. As explained above neither Silverman nor Schott, alone or in combination, discloses a method of moving order tokens. Sacerdoti fails to overcome this deficiency as well. Sacerdoti describes a 3-dimensional graphics generation and display application that provides a visual display of information retrieved from a database. Sacerdoti fails to disclose or suggest displaying order tokens, or enabling placing of the order in accordance with the desired value based on the location of the order token. Thus, the limitations of Claim 28 are not found in the prior art.

The Applicants also disagree with the Examiner that Sacerdoti includes a motivation to combine the reference based on, what Examiner refers to as "common subject matter of trading."¹⁵ The Applicants note that the sections cited by the Examiner discuss the importance of effective

J. H.

⁹ M.P.E.P. 2142-2143.03.

¹⁰ M.P.E.P. 2143.01 (8th ed. Aug. 2001), citing In re Rouffet, 149 F.3d 1350, 47 U.S.P.Q.2d (BNA) 1453, 1457-58 (Fed. Cir. 1998) ("The combination of references taught every element of the claimed invention, however without a motivation to combine, a rejection based on prima facie case of obviousness was held improper.")

On page 13 of Response 3, Applicants review the Examiners statement, "In this case, the Examiner has clearly set out an independently derived motivation to combine," which can be found on page 13 of the Final Office Action.

¹² M.P.E.P 2144.03(A) states that it is never appropriate to rely solely on common knowledge in the art without prior evidentiary support in the record as the principal evidence upon which a rejection was based.

¹³ Presently pending Claim 28 is on page 4 of the Response 3.

¹⁴ See Abstract in Sacerdoti.

¹⁵ On page 8 of the Final Office Action, "A motivation to combine the teachings of the references is given by Sacerdoti et al at Col. 1, lines 20-64 as common subject matter of trading."

presentation of computer-stored data rather than graphical user interfaces for electronic trading system.¹⁶ Thus, the Examiner failed to show proper suggestion or motivation to combine the reference teachings.

Third Rejection under 35 U.S.C. § 103(a)

The Examiner's third rejection included Claims 71-76 under 35 U.S.C. §103(a) as being unpatentable over Silverman, in view of Schott and further in view of US 6,161,099 given to Harrington et al. ("Harrington"). Claims 71-76 depend from Claim 1 and add further limitations of "a derivative of price" to Claim 1. Also, as mentioned above, independent Claim 87 discloses the same limitation. The Examiner asserted that Silverman did not disclose a derivative of price, but tried to overcome this deficiency using Harrington (specifically pointing to: "[t]he user enters a coupon for each maturity and an aggregate purchase price, and at the Issuer's option, a price or yield for each maturity.") Applicants contend that this statement in Harrington does not overcome the deficiencies of Silverman and Schott, since such a statement does not teach or suggest displaying indicators at locations corresponding to values representing a derivative of price. 19

Conclusion

The cited references do not show every limitation found in Applicants' presently pending independent Claims 1, 86, 87 and 90. Further, while combining the references would not result in the Applicants' claimed invention given the references lack the very same limitations, the Examiner cannot point to any motivation or suggestion to combine or modify the references to achieve Applicants' invention. Applicants' dependent claims are also patentable for distinct reasons, however, because the remaining rejected claims depend either directly or indirectly from one of the independent claims, the dependent claims were not entirely addressed in this pre-appeal brief for sake of space. Applicants submit that the present application is in condition for allowance and notice to that effect is hereby requested.

Date: 10/1905

By: Joseph A. Herndon
Reg. No. 50,469

¹⁶ See Sacerdoti, Col. 1, line 20-64.

¹⁷ Presently pending Claims 71-76 on page 5 of Response 3.

¹⁸ On page 9 of the Final Office Action.

¹⁹ On page 15 of Response 3.

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NOTICE OF APPEAL FRO				Docket No. 03-1106
In Re Application Of: Richard W. Friese	en			
Application No. Date 09/289,550 April 9, 1999	Examiner Charles R. Kyle	Customer No.	Group Art Unit 3624	Confirmation No.
Invention: User Interface for an Electro	onic Trading System			
	COMMISSIONER FOR	R PATENTS:		
Applicant(s) hereby appeal(s) to the Boar Examiner dated August 16, 2005	rd of Patent Appeals an finally rejecting Claim(s			he Primary
☑ A check in the amount of the fee is		in Abin non-Bentler	Dancell Acco	
☐ The Director has already been aut ☐ The Director is hereby authorized overpayment to Deposit Account N	to charge any fees which			nt. Signal of the second of th
Payment by credit card. Form PTC WARNING: Information on this f on this form. Provide credit card	form may become pub			not be included
Signature		Dated: Octo	ber 19, 2005	
Joseph A. Herndon McDonnell Boehnen Hulbert & Berghoff I 300 S. Wacker Drive Chicago, IL 60606	41 PT 200.00 GP 200.00 GP	sufficient posta	the United State ge as first class	respondence is being s Postal Service with mail in an envelope for Patents, P.O. Box
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cc:	10/11/2005	Typed or Printe		ailing Correspondence P13LARGE/REV08

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The state of the s	(Case No. 03-1106)
re the Application of:)
)
Friesen et al.) Group Art Unit: 3624
Serial No. 09/289,550)) Examiner: Kyle

For: User Interface for an Electronic Trading

System

Filed: April 9, 1999

Mail Stop AF Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450

Sir:

TRANSMITTAL LETTER

)

In regard to the above identified application:

- 1. We are transmitting herewith the attached:
 - A. Petition for Three Month Extension of Time
 - B. Notice of Appeal from the Primary Examiner to the Board of Patent Appeals and Interferences
 - C. Pre-Appeal Brief Request for Review
 - D. Pre-Appeal Brief Request for Review (5 pages)
 - E. Return Receipt Postcard.
- 2. With respect to additional fees, attached is a check in the amount of \$1,520.00 (\$1020.00 for three month extension of time and \$500 for notice of appeal fee)
- 3. Please charge any additional fees or credit overpayment to Deposit Account No. 13-2490. A duplicate copy of this sheet is enclosed.
- 4. CERTIFICATE OF MAILING UNDER 37 CFR § 1.10: The undersigned hereby certifies that this Transmittal Letter and the paper, as described in paragraph 1 hereinabove, are being deposited with the United States Postal Service as "Express Mail Post Office to Addressee", addressed to the Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this October 19, 2005 under the Express Mail label No. EV596647954US.

By

oseph A. Herndon

McDONNELL BOEHNEN HULBERT & BERGHOFF 300 SOUTH WACKER DRIVE CHICAGO, ILLINOIS 60808 TELEPHONE (312) 913-0001



PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)

ADDRESS TO: Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450	Attorney Docket No.: Application No.: Filing Date: First Named Inventor: Group Art Unit: Examiner:	03-1106 09/289,550 April 9, 1999 Richard W. Friesen 3624 Charles R. Kyle
This is a request under the provisions of 37 reply in the above identified application to Or The requested extension and appropriate not period desired): One Month (37 CFR 1.17(a)(1)) Two Months (37 CFR 1.17(a)(2)) Three Months (37 CFR 1.17(a)(4)) Four Months (37 CFR 1.17(a)(4)) Five Months (37 CFR 1.17(a)(5)) Applicant claims small entity status amount shown above is reduced by one-half A check in the amount of the fee is a The Commissioner is hereby author	ctober 21, 2005. on-small-entity fee are a 3) 3))) See 37 CFR 1.27. The f, and the resulting fee inclosed.	s follows (check time \$ \$ \$1020.00 \$ \$ nerefore, the fee s: \$
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[Page 1 of 1]

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Examiner Charles R: Kyle

Date

October 19, 2005

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Direct

312 913 3331

Phone

571-272-6746

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herndon@mbhb.com

Copy To

Pages,

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with cover

U.S. Patent Application Serial No. 09/289,550

Dear Examiner Kyle:

Enclosed is a courteously copy of a Notice of Appeal, Pre-Appeal Brief Request for Review and Pre-Appeal Brief Request for Review (5 pages) for the above-identified U.S. patent application that we filed with the U.S. Patent by express mailing on October 19, 2005.

Very truly yours,

Joseph A. Herndon

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OCT 2 0 2005

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IN THE UNITED STATES PATENT (Case No. 03-	\$2\EC:\F(\)\EC\$
In re the Application of: Friesen et al.) OCT 1 9 2005) Group Art Unit: 3624
Serial No. 09/289,550) Examiner: Kyle
Filed: April 9, 1999) Exammer. Ryle .
For: User Interface for an Electronic Trading))
System System	,
Mail Stop AF Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450	
Sir:	

In regard to the above identified application:

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TRANSMITTAL LETTER

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PAGE 2/10 * RCVD AT 10/19/2005 4:24:18 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-6/28 * DNIS:2738300 * CSID:3129132120 * DURATION (mm-ss):03-46

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PRE-APPEAL BRIEF REQUEST FOR REVI	EW	Docket Number	(Optional)
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t hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail	Application N	nwber	Filed
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on October 19, 2005	First Named (nventor	
Signature	Richa	rd W. Frie	SAn
	Art Unit		Examiner
Typed or printed Joseph A. Herndon	3624		Kyle
Applicant requests review of the final rejection in the above-with this request.	identified ap	olication. No	amendments are being filed
This request is being filed with a notice of appeal.			
The review is requested for the reason(s) stated on the attac Note: No more than five (5) pages may be provided	hed sheet(s).	
I am the		//	
applicant/inventor.		EL KA	<u></u>
assignee of record of the entire interest		/	Signature
See 37 CFR 3 71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/S8/96)	Jose	eph A. Heri	
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attorney or agent of record. 50,469 Registration number	312	<u>-913-3331</u>	
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attorney or agent acting under 37 CFR 1.34.	Oct	ober 19, 20	005
Registration number if acting under 37 CFR 1 34			Date
NOTE. Signatures of all the inventors or assignees of record of the entire is Submit multiple forms if more than one signature is required, see below.	nterest or their	representative(s)	are required.
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This collection of information is convered by 45 H.S.C. 132. The information is convered			A CONTRACTOR OF THE CONTRACTOR

This collection of information is required by 35 U.S.C. 132. 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. Confidermatity is governed by 35 U.S.C. 122 and 37 CFR 1 11, 1.14 and 41.6. This collection is esumated to take 12 minutes to complete, including gathering, preparing, and supmitting the completed application form to the USPTO. Time will vary depending upon the information form to the USPTO Time will vary depending upon the 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: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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PAGE 5/10 * RCVD AT 10/19/2005 4:24:18 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-6/28 * DNIS:2738300 * CSID:3129132120 * DURATION (mm-ss):03-46

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Serial No.	09/289,550)	Examiner: Charles R. K	Iyle
Filed:	04/09/1999	<u> </u>	Group Art Unit: 3624	
Title:	User Interface For Electronic Trading System) .)		

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Mail Stop AF Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

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Applicants' presently claimed invention relates to a graphical user interface for electronic trading systems. In this pre-appeal brief, Applicants submit that a prima facie case of obviousness has not been shown because neither of the cited references show all of the claimed limitations, there is no motivation or suggestion to combine the references outside of the Examiner's "independently derived motivation," and combining them would not even result in the claimed invention. Applicants respectfully request reconsideration.

First Rejection under 35 U.S.C. § 103(a)

The Examiner's first rejection included independent claims 1, 86, 87, and 90 under 35 U.S.C. § 103(a) as being unpatentable over US 5,136,501 to Silverman ("Silverman") in view of US 5,619,631 to Schott ("Schott"). Claims 86 and 90 have limitations that mirror the limitations found in Claim 1 and are patentable for similar reasons as Claim 1. With respect to independent Claim 87 and in spite of

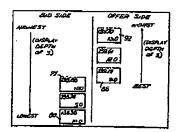
On page 2 of the Final Office Action of April 21, 2005, the Examiner rejected Claims 1, 2, 4, 10-12, 16, 18, 61-70 and 77-98 as being unparentable over Silverman in view of Schott.

Applicants' repeated remarks to correct the rejection, the Examiner continues to reject Claim 87 and directs us to the discussion of Claim 1.2 However, Claim 1 does not show the limitations of Claim 87.3 Instead, Claim 87 has similar limitations to Claim 72, which was rejected in view of different art. Applicants will therefore address Claim 87 separately in light of that art.

Claim 1 is directed to the displaying of an order icon that represents a user's order to buy or sell an item in the display of bid indicators and offer indicators positioned along a scaled axis. According to Claim 1, the order icon can be moved to a location associated with a value along the scaled axis to facilitate placement of an order. Applicants submit that Claim 1 taken as a whole provides an advantage over the prior art (including the Silverman and Schort references) because it gives a user the ability to move an order icon representing his or her own order to a different value in a display of market bids and offers positioned along a scaled axis. Applicants know of no prior art reference that shows such limitations or a combination of elements or provides motivation to provide such features.

Silverman reaches an anonymous matching system through the use of logical models to illustrate the book market employed in the matching system.⁵ The logical models referred to by the Examiner are not graphical user interfaces and it is impermissible to use them as displays. Instead, FIG. 4 of Silverman shows a logical model of a book database at the central system and FIG. 5 shows

FIG. 5



logical model of a book database at a keystation, which is a subset of the central station's book database. The boxes in FIGs. 4 and 5 are not indicators and cannot be used to teach indicators in a display as the Examiner asserts. Rather, the boxes illustrate database entries that are used by the Silverman's system to generate central and local keystation book databases, respectively. In spite of the logical models not being displays, the Examiner uses them in making the rejection of Applicants' display claims. When even making this impermissible

assumption, the figures lack many claim limitations. The logical models only show bid and ask database entries at the prices where orders have been entered, and therefore, the Applicants agree with the Examiner's statement that Silverman does not disclose "the limitations of positioning of indicators along a scaled axis of values corresponding to an associated value." Also, the logical models do not

On page 12 of Response 2, Applicants' bring this mistake to the Examiner's attention for the first time.

On page 9 of the Final Office Action of April 21, 2005, when rejecting Claim 72 - which calls for similar limitations as Claim 87 - the Examiner states that neither Silverman nor Schott show this limitation.

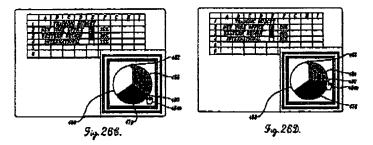
Presently pending Claim 1 is on page 2 of Response 3. Applicants review Claim 1 on page 10 of Response 3.

Applicants' review of Silverman is found in the last paragraph starting on page 13 of Response 1.

On page 3 of the final Office Action, the Examiner states that Silverman "does not specifically disclose the limitations of positioning of indicators along a scaled axis of values corresponding to an associated value or, in response to a user initiated command, moving an indicator (icon) to a location on the axis."

distinguish a user's own order from those entered by other users. Applicants contend that because Silverman does not show indicators along a scaled axis, does not distinguish a user's own order, then it follows that Silverman does not also show, "in response to a user initiated command, moving an indicator to a location on the axis," as admitted by the Examiner.

Schott teaches data manipulation of representational dynamic graphs. A user is able to manipulate a graph shape directly, which in turn not only modifies the graph, but also alters the corresponding and underlying tabularized data. The Examiner turns to Schott to teach what Silverman is lacking, namely, the positioning of bid/offer indicators along a scaled axis of values and the moving of the order icon associated with the user's own order. The Examiner asserts that the dynamic bar graph of Fig. 19A shows the scaled axis of values. Applicants contend that Schott does not show Applicants' "scaled axis of values," in which the values of the scaled axis are based on values associated with at least one bid and at least one offer. Additionally, the Examiner refers to Figs. 26A-26F (Figs. 26C and 26D are shown below to illustrate that a change in the pie chart makes an automatic change in the spreadsheet) whereby changing the size of one section of a pie chart will also change the corresponding number in the spreadsheet. With reference to these figures, the Examiner makes a general assertion that Schott teaches the moving of an order icon on a scaled axis of values called for in Applicants' Claim 1. Yet, Applicants submit that Schott makes no reference to, or mention whatsoever of, facilitating placement of an order to buy/sell an item by moving the order icon to a location along the first scaled axis of values.



Applicants submit that Silverman and Schott, taken alone, or in combination, do not describe or suggest the limitations of Claim 1. Neither reference teaches to display bid/offer indicators, nor do they teach the display of bid/offer indicators along a scaled axis of values. Neither reference shows displaying an order icon associated with a user's order for a particular quantity of the item. Neither reference shows moving the order icon to a location associated with a value along the scaled axis of

3

PAGE 8/10 * RCVD AT 10/19/2005 4:24:18 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-6/28 * DNIS:2738300 * CSID:3129132120 * DURATION (mm-ss):03-46

⁷ Applicants review of this issue can be found on page 15 of Response 1.

⁸ Applicants review of Schott is found in the last paragraph at the bottom of page 10 of Response 2 and in the first paragraph on page 12 of Response 3.

values. The Examiner did not show otherwise, and therefore, each of the lumitations of Claim 1 are not found in the prior art, which is required to make a prima face case of obviousness.9

Additionally, the Examiner failed to show a proper suggestion or motivation to modify or combine the reference teachings. 10 While combining the references would not lead to Applicants' claimed invention (both lack the same limitations as stated above), neither reference shows motivation for making the modification suggested by the Examiner. Furthermore, no reference suggests the desirability of providing this type of graphical control over a user's own order in the display of bids/offers. Indeed, the Examiner has stated that no motivation exists outside of the Examiner's own, "independently derived motivation" to combine the references.11 However, because the Examiner did not provide any evidence to support this independent derivation, the Examiner's independently derived motivation cannot stand.12

Second Rejection under 35 U.S.C. § 103(a)

The Examiner's second rejection included Claim 28 under 35 U.S.C. §103(a) as being unpatentable over Silverman, in view of Schott and further in view of US 6,188,403 given to Sacerdon et al. ("Sacerdon"). Claim 28 depends from Claim 1, and hence adds a further limitation to Claim 1. The limitations of Claim 28 include moving an order token to a user specified location with respect to a first scaled axis of values which corresponds to a desired value, thereby enabling placing of the order in accordance with the desired value.13 As explained above neither Silverman nor Schott, alone or in combination, discloses a method of moving order tokens. Sacerdon fails to overcome this deficiency as well. Sacerdori describes a 3-dimensional graphics generation and display application that provides a visual display of information retrieved from a database.14 Sacerdon fails to disclose or suggest displaying order tokens, or enabling placing of the order in accordance with the desired value based on the location of the order token. Thus, the limitations of Claim 28 are not found in the prior art.

The Applicants also disagree with the Examiner that Sacerdoti includes a motivation to combine the reference based on, what Examiner refers to as "common subject matter of trading."15 The Applicants note that the sections cited by the Examiner discuss the importance of effective

⁹ M P.E P. 2142**-**2143.03.

¹⁰ M.P.E P. 2143.01 (8th ed. Aug. 2001), citing In re Rouffet, 149 F.3d 1350, 47 U.S.P.Q.2d (BNA) 1453, 1457-58 (Fed. Cir. 1998) ("The combination of references taught every element of the claimed invention, however without a motivation to combine, a rejection based on prima facie case of obviousness was held improper.")

11 On page 13 of Response 3, Applicants review the Examiners statement, "In this case, the Examiner has clearly set out

an independently derived motivation to combine," which can be found on page 13 of the Final Office Action.

12 M P.E.P 2144 03(A) states that it is never appropriate to rely solely on common knowledge in the art without prior

evidentiary support in the record as the principal evidence upon which a rejection was based.

13 Presently pending Claim 28 is on page 4 of the Response 3.

¹⁴ See Abstract in Sacerdon.

¹⁵ On page 8 of the Final Office Action, "A motivation to combine the teachings of the references is given by Sacerdoti et al at Col. 1, lines 20-64 as common subject matter of trading."

presentation of computer-stored data rather than graphical user interfaces for electronic trading system.16 Thus, the Examiner failed to show proper suggestion or motivation to combine the reference reachings.

Third Rejection under 35 U.S.C. § 103(a)

The Examiner's third rejection included Claims 71-76 under 35 U.S.C. §103(a) as being unpatentable over Silverman, in view of Schott and further in view of US 6,161,099 given to Harrington et al. ("Harrington"). Claims 71-76 depend from Claim 1 and add further limitations of "a derivative of price" to Claim 1.17 Also, as mentioned above, independent Claim 87 discloses the same limitation. The Examiner asserted that Silverman did not disclose a derivative of price, but tried to overcome this deficiency using Harrington (specifically pointing to: "[t]he user enters a coupon for each maturity and an aggregate purchase price, and at the Issuer's option, a price or yield for each maturity.")18 Applicants contend that this statement in Harrington does not overcome the deficiencies of Silverman and Schott, since such a statement does not teach or suggest displaying indicators at locations corresponding to values representing a derivative of price.19

Conclusion

The cited references do not show every limitation found in Applicants' presently pending independent Claims 1, 86, 87 and 90. Further, while combining the references would not result in the Applicants' claimed invention given the references lack the very same limitations, the Examiner cannot point to any motivation or suggestion to combine or modify the references to achieve Applicants' invention. Applicants' dependent claims are also patentable for distinct reasons, however, because the remaining rejected claims depend either directly or indirectly from one of the independent claims, the dependent claims were not entirely addressed in this pre-appeal brief for sake of space. Applicants submit that the present application is in condition for allowance and notice to that effect is hereby requested.

Respectfully submitted,

¹⁶ See Sacerdoti, Col. 1, line 20-64.

¹⁷ Presently pending Claims 71-76 on page 5 of Response 3.
18 On page 9 of the Final Office Action.

¹⁹ On page 15 of Response 3.

THE BOARD O	F PATENT APPEA	LLS AND INTERFE	RENCES (Large	e Entity)	03-1106
In Re Application O	f. Richard W. Friesen				
Application No.	Filing Date	Examiner	Customer No.		Confirmation No
09/289,550	April 9, 1999	Charles R. Kyle	39310	3624	8747
Invention: User In	iterface for an Electron	ic Trading System		(RECEIVEL CENTRAL FAX CE
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Applicant(s) hereby	appeal(s) to the Board	of Patent Appeals and Ir	iterferences from	the decision of tr	ne Primary
Examiner dated		nally rejecting Claim(s)			
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PAGE 4/10 * RCVD AT 10/19/2005 4:24:18 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-6/28 * DNIS:2738300 * CSID:3129132120 * DURATION (mm-ss):03-46

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		Group Art Unit:	3624	
		Examiner:	Charles R. Kyle	
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PAGE 3/10 * RCVD AT 10/19/2005 4:24:18 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-6/28 * DNIS:2738300 * CSID:3129132120 * DURATION (mm-ss):03-46





UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE United States Patent and Trademark Office Address: COMMISSIONER FOR PATENTS P.O. Box 1450 Alexandra, Virginia 22313-1450 www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO
09/289,550	04/09/1999	RICHARD W. FRIESEN	3854	8747
7590 08/16/2005 Mr. Steven Borsand Vice President Intellectual Property 222 South Riverside Plaza, Suite 1100 Trading Technology International, Inc.			EXAMINER KYLE, CHARLES R	
			3624	
			Chicago, IL 6	0606

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

Advisory Action Before the Filing of an Appeal Brief

Application No.	Applicant(s)	
09/289,550	FRIESEN ET AL.	
Examiner	Art Unit	
	711 01111	
Charles Kyle	3624	



DESTINUATION Sheet (PTOL-303)
The MAILING DATE of this communication appears on the cover sheet with the correspondence address
THE REPLY FILED 21 June 2005 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.
1. The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:
a) The period for reply expiresmonths from the mailing date of the final rejection.
b) The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).
Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).
NOTICE OF APPEAL
2. The Notice of Appeal was filed on A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).
AMENDMENTS
3. The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will <u>not</u> be entered because (a) They raise new issues that would require further consideration and/or search (see NOTE below); (b) They raise the issue of new matter (see NOTE below);
(c) They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for
appeal; and/or (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.
NOTE: (See 37 CFR 1.116 and 41.33(a)).
4. The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. Applicant's reply has overcome the following rejection(s):
6. Newly proposed or amended claim(s) would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. For purposes of appeal, the proposed amendment(s): a) will not be entered, or b) will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended. The status of the claim(s) is (or will be) as follows:
Claim(s) allowed:
Claim(s) objected to:
Claim(s) rejected:
Claim(s) withdrawn from consideration:
AFFIDAVIT OR OTHER EVIDENCE
8. The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will <u>not</u> be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will <u>not</u> be entered because the affidavit or other evidence failed to overcome <u>all</u> rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached. REQUEST FOR RECONSIDERATION/OTHER
11. The request for reconsideration has been considered but does NOT place the application in condition for allowance because:
At pages 10-11 of Remarks, Applicant recites claim language comprising order information (Silverman) and icon manipulation on with respect to an axis (Schott). At page 12 of Remarks, Applicant describes Schott but fails to identify any limitation missing from the combined references. At page 12 to 13, Applicant characterizes the motivation to combine the references as
a "giant leap" but fails to substantively refute the reasoning. As to Applicant's argument regarding the necessity of suggestion to combine in the prior art, the Examiner recognizes that the knowledge of one of ordinary skill in the art of financial
information presentation would see the obvious benefit of manipulating the data of Silverman using the techniques of Schott.
Applicant's claimed invention is simply the representation of known order data (Silverman) using data manipluation techniques on an old and well-known scaled axis. The references are indeed different, but complementary. As to argument against the
application of Sacerdoti, the Examiner notes that no claim was made that Sacerdoti disclosed order icons; order information is
disclosed by Silverman. Sacerdoti discloses adjustment of size of icons; the rejection was made over the combination of references. At page 15, Applicant depends on arguments regarding the First Rejection, addressed above.
12. Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s).
13. Other:

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Continuation Sheet (PTOL-303)		Application No.

PTOL-303 (Rev. 4-05)

Advisory Action Before the Filing of an Appeal Brief

Part of Paper No. 08122005



6-28-05

3624

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.

09/289,550

Confirmation No. 8747

Applicants:

Richard W. Friesen et al.

Filed

04/09/1999

TC/A.U.

3624

Examiner

Charles R Kyle

Docket No.

3854

RESPONSE TO THE FINAL OFFICE ACTION MAILED APRIL 21, 2005

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Sir:

In response to the Final Office Action of April 21, 2005, the Applicants submit the following:

Listing of Claims begins on page 2 of this paper – no amendments have been made.

Remarks/Arguments begin on page 10 of this paper.

Listing of Claims:

1. (Previously presented) A computer based method for facilitating the placement of an order for an item and for displaying transactional information to a user regarding the buying and selling of items in a system where orders comprise a bid type or an offer type, and an order is generated for a quantity of the item at a specific value, the method comprising:

displaying a plurality of bid indicators, each corresponding to at least one bid for a quantity of the item, each bid indicator at a location along a first scaled axis of values corresponding to a value associated with the at least one bid;

displaying a plurality of offer indicators, each corresponding to at least one offer for a quantity of the item, each offer indicator at a location along the first scaled axis of values corresponding to a value associated with the at least one offer;

displaying an order icon associated with an order by the user for a particular quantity of the item; and

in response to a user initiated command, moving the order icon to a location associated with a value along the first scaled axis of values.

- 2. (Previously presented) The method of claim 1 wherein the order icon is adjustable by the user to reflect the quantity of the order.
- 3. (Canceled)
- 4. (Previously presented) The method of claim 1 further comprising: receiving a request for an order responsive to a user action specifying a quantity of the item and value for the order.
- 5. 9. (Canceled)
- 10. (Previously presented) The method of claim 1 further comprising:

displaying the order icon placed by the user with a first visual characteristic; and displaying the bid and offer indicators corresponding to orders placed by other users with a second visual characteristic.

- 11. (Previously presented) The method of claim 1 further comprising:
 displaying each of the plurality of bid and offer indicators having an edge which is angled toward the first scaled axis of values.
- 12. (Previously presented) The method of claim 1 further comprising:
 receiving market information representing a new order to buy a quantity of the item for a specified value;

in response to the received market information, generating a bid indicator whose size corresponds to the quantity of the item bid for; and

placing the bid indicator at a location along the first scaled axis of values corresponding to the specified value of the bid.

13.-15. (Canceled)

16. (Previously presented) The method of claim 1 further comprising: receiving market information representing a new order to sell a quantity of the item for a specified value;

in response to the received market information, generating an offer indicator whose size corresponds to the quantity of the item for which the offer is made; and placing the offer indicator at a location along the first scaled axis of values corresponding to the specified value of the offer.

17. (Canceled)

18. (Previously presented) The method of claim 1 further comprising:

generating a second axis, perpendicular to the first scaled axis of values, representing time;

generating a third axis, perpendicular to the second axis, representing value; and displaying a historical chart representing values of the item responsive to time and value with respect to the second and third axes.

Claims 19 - 27. (Canceled)

28. (Previously presented) The method of claim 1 further comprising: displaying a plurality of order tokens having different values; receiving a selection for an order token; and moving the order token to a user specified location with respect to the first scaled axis of values which corresponds to the desired value;

thereby enabling placing of the order in accordance with the desired value.

29 - 60. (Canceled)

- 61. (Previously presented) The method of claim 1 further comprising visually distinguishing bid indicators from offer indicators.
- 62. (Previously presented) The method of claim 1 further comprising visually distinguishing the order icon from the plurality of bid and offer indicators.
- 63. (Previously presented) The method of claim 1 further comprising displaying a marker representing a value of interest at a location associated with a value on the first scaled axis of values.
- 64. (Previously presented) The method of claim 63 wherein the location at which the marker is displayed is updated dynamically.

- 65. (Previously presented) The method of claim 1 wherein the user initiated command comprises selecting the order icon using a pointer device and dragging the order icon to the location.
- 66. (Previously presented) The method of claim 1 further comprising modifying the order icon based on a transaction.
- 67. (Previously presented) The method of claim 1 wherein the size of the order icon is associated with the quantity of the order.
- 68. (Previously presented) The method of claim 1 wherein the values on the first scaled axis of values represent price.
- 69. (Previously presented) The method of claim 1 wherein the item comprises a commodity.
- 70. (Previously presented) The method of claim 63 wherein the marker comprises a line.
- 71. (Previously presented) The method of claim 1 wherein the values on the first scaled axis of values represent a qualitative measure other than price.
- 72. (Previously presented) The method of claim 71 wherein the qualitative measure represents a derivative of price.
- 73. (Previously presented) The method of claim 72 wherein the derivative of price is an interest rate, a bond cost, an implied interest rate, or implied volatility of the item.
- 74. (Previously presented) The method of claim 71 wherein the qualitative measure represents any metric by which an item can be valued.

- 75. (Previously presented) The method of claim 71 wherein different qualitative measures can be chosen by the user.
- 76. (Previously presented) The method of claim 71 further comprising receiving a command to select a new qualitative measure and updating the display of the plurality of bid indicators and the plurality of offer indicators to locations along the first scaled axis of values corresponding to values associated with the new qualitative measure.
- 77. (Previously presented) The method of claim 1 wherein the bid indicator displays the quantity of the item associated with the bid and the offer indicator displays the quantity of the item associated with the offer.
- 78. (Previously presented) The method of claim 1 wherein the order icon displays the quantity of the order placed by the user.
- 79. (Previously presented) The method of claim 1 further comprising displaying contextual data along with the plurality of bid and offer indicators.
- 80. (Previously presented) The method of claim 79 wherein the contextual data is displayed as a historical chart along the first scaled axis of values.
- 81. (Previously presented) The method of claim 79 wherein the contextual data is displayed as a volume graph.
- 82. (Previously presented) The method of claim 79 wherein the contextual data indicates the high and low values of the item for a period of time.
- 83. (Previously presented) The method of claim 1 wherein the first scaled axis is graduated in intervals such that each interval represents a particular value.

- 84. (Previously presented) The method of claim 1 further comprising the step of displaying the values along the first scaled axis of values.
- 85. (Previously presented) The method of claim 1 wherein the each of plurality of bid and offer indicators are graphically represented to the user as icons.
- 86. (Previously presented) A computer readable medium having program code recorded thereon for execution on a computer for displaying transactional information to a user regarding the buying and selling of items in a system where orders comprise a bid type or an offer type, and an order is generated for a quantity of an item at a specific value, the method comprising:
- a first program code for displaying a plurality of bid indicators, each corresponding to at least one bid for a quantity of the item, each bid indicator at a location along a first scaled axis of values corresponding to a value associated with the at least one bid;
- a second program code for displaying a plurality of offer indicators, each corresponding to at least one offer for a quantity of the item, each offer indicator at a location along the first scaled axis of values corresponding to a value associated with the at least one offer;
- a third program code for displaying an order icon associated with an order by the user for a particular quantity of the item; and
- a fourth program code for, in response to a user initiated command, moving the order icon to a location associated with a value along the first scaled axis of values.
- 87. (Previously presented) A computer based method for displaying transactional information to a user regarding the buying and selling of items in a system where orders comprise a bid type or an offer type, and an order is generated for a quantity of the item at a specific value, the method comprising:

displaying a plurality of bid indicators, each corresponding to at least one bid for a quantity of the item;

displaying a plurality of offer indicators, each corresponding to at least one offer for a quantity of the item;

wherein the plurality of bid indicators and the plurality of offer indicators are displayed at locations corresponding to values along a scaled axis such that the values represent a derivative of price for the item.

- 88. (Previously presented) The method of claim 72 wherein the derivative of price is an interest rate, a bond cost, an implied interest rate, or implied volatility of the item.
- 89. (Previously presented) The method of claim 87 wherein the derivative of price is customizable.
- 90. (Previously presented) A computer based method for facilitating the placement of an order for an item and for displaying transactional information to a user regarding the buying and selling of items in a system where orders comprise a bid type or an offer type, and an order is generated for a quantity of the item at a specific value, the method comprising:

displaying a plurality of bid indicators, each corresponding to at least one bid for a quantity of the item, each bid indicator at a location along a first scaled axis of values corresponding to a value associated with the at least one bid; and

displaying a plurality of offer indicators, each corresponding to at least one offer for a quantity of the item, each offer indicator at a location along the first scaled axis of values corresponding to a value associated with the at least one offer;

displaying an order token associated with at least one preset order parameter; and in response to a user initiated command, moving the order token to a location associated with a desired value along the first scaled axis of values.

- 91. (Previously presented) The method of claim 90 wherein the user initiated command comprises dragging the order token to the location.
- 92. (Previously presented) The method of claim 90 wherein the at least one preset order parameter comprises a quantity for an order to be sent.
- 93. (Previously presented) The method of claim 90 wherein the at least one preset order parameter comprises a bid type or an offer type.
- 94. (Previously presented) The method of claim 90 wherein the order token represents an order to be sent, wherein the order to be sent would have order parameters equal to the at least one preset order parameter of the order token and a value equal to the desired value associated with the location the order token was moved to.
- 95. (Previously presented) The method of claim 90 wherein an order having order parameters equal to the at least one preset order parameter of the order token and a value equal to the desired value is sent to a transaction server.
- 96. (Previously presented) The method of claim 95 wherein, in response to being sent, the displayed order token becomes an order icon representing the user's own order for the item.
- 97. (Previously presented) The method of claim 90 wherein the size of the order token is adjustable by the user to reflect the quantity of the order to be sent.
- 98. (Previously presented) The method of claim 90 wherein the order token is associated with a plurality of preset order parameters.

REMARKS

In the Final Office Action ("Office Action") of April 21, 2005, claims 1, 2, 4, 10-12, 16, 18, 28 and 61-98 were rejected. Applicants hereby respond to the Office Action based on the following remarks.

Also in the Office Action, the Examiner stated he was unable to find two references in the March 25, 2005 IDS. Applicants have submitted the two references with this response.

First Rejection under 35 U.S.C. § 103(a)

On page 2 of the Office Action, the Examiner rejected claims 1, 2, 4, 10-12, 16, 18, 61-70 and 77-98, of which claims 1, 86, 87, and 90 are independent, under 35 U.S.C. 103(a) as being unpatentable over Silverman in view of Schott. Applicants traverse these rejections and respectfully request reconsideration.

Applicants first address claim 1, which is directed towards aspects of the present invention related to facilitating the placement of a trade order for an item and for displaying transactional information to a user regarding the buying and selling of items in a system. Presenting information according to the method of claim 1 allows users to intuitively place an order and view trends in the bids and offers in addition to the buying and selling of the item being traded. Further, an order indicator associated with an order icon can be moved to allow precise placement at the desired value. Independent claims 86 and 90 have limitations that mirror the limitations found in claim 1 and are patentable for similar reasons as claim 1.

The test under 35 U.S.C. 103(a) is whether the claimed invention as a whole is taught by the prior art. As described below, Silverman lacks many limitations found in Applicants' claim 1 and Schott fails to overcome the deficiencies of Silverman.

On page 3 of the Office Action, the Examiner admits that Silverman "does not specifically disclose the limitations of positioning of indicators along a scaled axis of values corresponding to an associated value or, in response to a user initiated command, moving an indicator (icon) to a location on the axis." Applicants agree with the Examiner on this point. Indeed, Silverman is missing so many limitations found in

Applicants' claim 1 – i.e., limitations from every step of claim 1 – that a large void must yet be filled to find Applicants' claim 1 obvious under 35 U.S.C. 103(a). Schott does not fill that void as further explained below. Thus, even if combined, the references do not teach or suggest Applicants' claimed invention.

Claim 1 calls for "displaying a plurality of bid indicators, each corresponding to at least one bid for a quantity of the item, each bid indicator at a location along a first scaled axis of values corresponding to a value associated with the at least one bid," – on page 3 of the Office Action, the Examiner admits that Silverman does not show "positioning of indicators along a scaled axis of values corresponding to an associated value."

Applicants agree. Silverman does not show this limitation, and therefore could not allow a user to intuitively place an order and view trends in the bids of the item being traded.

Claim 1 also calls for "displaying a plurality of offer indicators, each corresponding to at least one offer for a quantity of the item, each offer indicator at a location along the first scaled axis of values corresponding to a value associated with the at least one offer," – similarly, on page 3 of the Office Action, the Examiner admits that Silverman does not show "positioning of indicators along a scaled axis of values corresponding to an associated value." Applicants agree. Silverman does not show this limitation, and therefore could not allow a user to intuitively place an order and view trends in the offers of the item being traded.

Claim 1 also calls for "displaying an order icon associated with an order by the user for a particular quantity of the item," – Silverman does not show order icons and does not teach displaying an order icon associated with an order by the user, and therefore could not enable movement of an order indicator associated with an order icon to allow precise placement at the desired value.

Claim 1 also calls for "in response to a user initiated command, moving the order icon to a location associated with a value along the first scaled axis of values," – on page of 3 of the Office Action, the Examiner admits that Silverman does not show "in response to a user initiated command, moving an indicator (icon) to a location on the axis."

Applicants agree. Silverman does not show this limitation, and therefore could not

enable movement of an order indicator associated with an order icon to allow precise placement at the desired value.

On page 3 of the Office Action, the Examiner states that "Schott discloses these features [the features missing in Silverman] at Fig. 19a (scaled axis) and movement of an indicator to a location on the axis in response to a user initiated command at Col. 3, lines 20-25 and Col. 20, line 60 to Col. 21, line 28." Applicants wish to note that Fig. 19a shows simply a dynamic bar graph. The text in Schott, referred to by the Examiner on page 3, describes that when one changes a feature of the bar graph, the associated data tables (in a spreadsheet) are reconfigured to correspond to the bar change. So, Schott teaches dynamic graphs wherein the computer user is able to manipulate the graph shape directly, which in turn not only modifies the graph, but also alters the corresponding and underlying tabularized data. The "financial information" that the Examiner refers to in Figs. 26A-26F is a training budget for a New York Office (35% of the budget), Western Region (30%), and International (35%). A dynamic pie chart is also shown in the figures and when the pie chart is changed, then the corresponding budget percentages in the spreadsheet change accordingly.

Like Silverman, Schott is missing the limitations of claim 1. Neither reference displays bid/offer indicators along a scaled axis of values – the indicators corresponding to bids and offers for an item. Neither reference shows displaying an order icon associated with a user's order for a particular quantity of the item. Neither reference shows moving the order icon to a location associated with a value. The Examiner cannot show otherwise, and therefore, not every limitation of claim 1 is found in the prior art, which is required to make an obvious showing under 103.

To find a rejection under 103, the Examiner makes a giant leap by combining Schott and Silverman to conclude on page 3 of the Office Action that it would have been obvious to modify the references because this would have allowed "dynamic creation of orders, reconfiguration of the graphical representations according to manipulation of the graph and simple and easy modification of underlying order data." The Examiner further states that "[s]uch capacity would allow users to readily perceive the status of a market and participate in the market efficiently through quick manipulation of their particular

order information (icon)." Yet, to combine the references under 35 U.S.C. 103 there must be some suggestion or motivation to modify or combine the reference teachings. MPEP 2143. However, no suggestion or motivation exists in the references and even the Examiner has so admitted on page 13 of the Office Action.

On page 13, referring to claim 1, the Examiner admits that in this case the motivation to combine was "independently derived." The Examiner provided no evidentiary evidence to support this independent derivation. According to MPEP 2144.03(A), when the Examiner relies on common knowledge, it would not be appropriate for the Examiner to take notice of facts without citing a prior art reference where the facts asserted to be well-known are not capable of instant and unquestionable demonstration as being well-known. It is never appropriate to rely solely on common knowledge in the art without prior evidentiary support in the record, as the principal evidence upon which a rejection was based. (The Board cannot simply reach conclusions based on its own understanding or experience or on its assessment of its basic knowledge or common sense. Rather the Board must point to some concrete evidence in support of these findings.) Zurko, 258 F.3d at 1385.

Without more, the Examiner's "independently derived" motivation is not enough. Something in the prior art as a whole must suggest the desirability, and thus the obviousness, of making the combination or modification. The Examiner already noted on page 3 of the Office Action that Silverman does not show displaying bid and offer indicators along a scaled axis, or in response to a user initiated command, moving an icon associated with an order on the axis. Not only did Silverman not show those limitations, but there was no suggestion or desire to modify Silverman to have them. In fact, this proposed modification would change the principle operation of Silverman because the keystation book in Fig. 5, for example, is only a copy of the host book in Fig. 4, and the keystation book gets updated periodically over a network only by the host book. In fact, the keystation book illustrated in Silverman's Fig. 5 displays only the aggregate primary quantities at each price rather than individual orders. (e.g., a primary quantity of "9" at "139.19" in Fig. 5 compared to two separate quantity entries of "6" and "3" at "139.19 in Fig. 4). Thus, since the user only sees aggregate quantities, there would be no way for a

user to modify individual orders using the keystation book. In other words, Silverman could not support the Examiner's proposal. Therefore, a user could not move the user's order as called for by Applicants' claim 1. According to MPEP 2143.01, the proposed modification cannot change the principle operation of a reference, otherwise the teachings of the references are not sufficient to render the claims obvious. In re Ratti, 270 F.2d 810. Here, the Examiner's proposed modification changes the principle operation of Silverman, and therefore, for at least this reason, the proposed modification cannot render claim 1 obvious.

Based on the cited prior art, the only way one could conceivably "modify" such references to result in Applicants' claimed invention would be if Applicants specification was used as a guide. Only with the knowledge of what Applicant's specification teaches and the advantages that are set forth, would one pick and choose and combine/modify the references in a way to attempt to achieve the claimed invention.

Second Rejection under 35 U.S.C. § 103(a)

On page 8 of the Office Action, the Examiner rejected claim 28 under 35 U.S.C. 103(a) as being unpatentable over Silverman in view of Schott and further in view of Sacerdoti et al. Claim 28 depends on claim 1, and adds further limitations to independent claim 1. Claim 28 recites, among other steps, "displaying a plurality of order tokens having different values," and "moving the order token to a user specified location with respect to the first scaled axis of values which corresponds to the desired value, thereby enabling placing of the order in accordance with the desired value." Neither Silverman nor Schott, alone or in combination, discloses a method of displaying a plurality of order tokens being moved with respect to an axis. Sacerdoti fails to overcome deficiencies of Silverman and Schott. Sacerdoti describes a 3-dimensional graphics generation and display application that can provide visual display of information retrieved from a database. (Abstract). Sacerdoti fails to disclose, teach, or suggest displaying order tokens or icons, or placing of the order in accordance with the desired value, as claimed in claim 28. Accordingly, Applicants respectfully submit that Silverman, Schott, alone or

in combination with Sacerdoti, does not render claim 28 obvious. Thus, claim 28 is in condition for allowance.

Additionally, claim 28 is allowable as it depends from claim 1, which is allowable for at least the reasons stated herein.

Third Rejection under 35 U.S.C. § 103(a)

On page 9 of the Office Action, the Examiner rejected claims 71-76 under 35 U.S.C. 103(a) as being unpatentable over Silverman in view of Schott and further in view of Harrington. Claims 71-76 depend on claim 1 and add further limitations to independent claim 1. The arguments related to the patentability of claim 1 are incorporated herein by reference from the First Rejection section above. Applicants agree with the Examiner that Silverman does not disclose a derivative of price. (See page 9 of the Office Action). As described in section of Harrington highlighted by the Examiner, having a user enter "a coupon for each maturity and an aggregate purchase price, and at the Issuer's option, a price or yield for each maturity," does not expressly or impliedly teach or suggest displaying indicators corresponding to a derivative of price along a scaled axis. Thus, Harrington does not overcome deficiencies of Silverman or Schott, alone or in combinations, as described in the First Rejection section above, and claims 71-76 are also in condition for allowance.

Independent claim 87 also discloses a derivative of prices. More specifically, claim 87 is directed to a method for displaying transactional information, comprising a plurality of bid indicators and a plurality of ask indicators being displayed at locations corresponding to values along a scaled axis such that the values represent a derivative of price for the item. The Examiner rejected claim 87 over Silverman in view of Schott. Applicants agree with the Examiner that Silverman does not disclose a derivative of price. Arguments related to patentability of Claim 1 from the First Section Rejections are incorporated herein by reference and are equally applicable with respect to the rejection of claim 87. Neither Silverman, nor Harrington, alone or in combination, as described in the previous paragraph, describes or suggests displaying indicators at locations

corresponding to values representing a derivative of price. Thus, claim 87 is in condition for allowance.

Additional comments

The Applicants would like to clear up a few statements made by the Examiner in this Office Action with respect to Applicants' previous response (response to office action mailed September 15, 2004).

On page 11 of this Office Action, the Examiner mischaracterizes statements made in Applicants' previous response by stating that the "Applicant asserts that neither Silverman nor Schott discloses 'facilitating the placement of an order for an item and for displaying transactional information to a user regarding the buying and selling of items in a system." The Examiner then cited to various sections in Silverman to conclude that Silverman shows the elements in the preamble of Applicants' claim 1. In making this statement, the Examiner further states that Applicants provide no suggestion of why these citations are deficient. While Silverman may or may not show elements of the preamble of claim 1, that is not what Applicants stated, nor would that be the test for patentability. Instead, on page 10 of the previous response, Applicants said claim 1 is a method for "facilitating the placement..." (which is reciting Applicants' claim 1 preamble) and that neither Silverman nor Schott show such methods (e.g., the method of claim 1). The Applicants' analysis started in the following paragraphs as to why the references do not show such a method covered by claim 1.

On page 12, the Examiner said that Applicants cite no claimed feature that distinguishes over Silverman. While the Applicants have cited claimed features that distinguishes over Silverman, it is worth noting that the Examiner has already stated many limitations that Silverman is missing and the Applicants agreed.

On page 13, the Examiner was mistaken that the Applicants suggest that the unobvious aspect of his invention is the use of a "dragging" technique for manipulating orders. While that may be part of the unobvious aspect, it is irrelevant as the Examiner must look at the claimed invention as a whole to determine nonobviousness.

Conclusion

For at least the foregoing reasons, independent claims 1, 86, 87 and 90 are allowable, and the remaining rejected claims depend either directly or indirectly from one of the independent claim. Applicants therefore submit that the present application is in condition for allowance and notice to that effect is hereby requested. If the Examiner believes that further dialog would expedite consideration of the application, he is invited to contact Mark Triplett at (312) 476-1151 or the undersigned attorney/agent.

Respectfully submitted,

Date: 6/21/05

Joseph A. Herndon

Form PTO-1449	U.S. Department of Commerce Patent and Trademark Office	Atty. Docket No. 03-1106	Serial No. 09/289,550		
STATE	MATION DISCLOSURE MENT BY APPLICANT				
OIPE		Applicant: Friesen et al.			
JUN 2 1 2005 W		Filing Date: 04/09/99	Group: 3624		

U.S. PATENT DOCUMENTS

Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date

FOREIGN PATENT DOCUMENTS

	Document Number	Date	Country	Class	Subclass	Translation Yes No

OTHER DOCUMENTS - Including Author, Title, Date, Pertinent Pages, Etc.

1.	CATS Traders' Manual, Toronto Stock Exchange, September 30,1977
2.	Market Watch, Trading Screen, date not available

Examiner	Date Considered



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

(Case No. 03-1106)

Group Art Unit: 3624
Examiner: Charles R. Kyle

Sir:

TRANSMITTAL LETTER

In regard to the above identified application:

- 1. We are transmitting herewith the attached:
 - A. Response to Office Action mailed April 21, 2005
 - B. U.S. PTO 1449
 - C. 2 Cited References
 - D. Return Receipt Postcard.
- 2. No additional fee is required.
- 3. Please charge any additional fees or credit overpayment to Deposit Account No. 13-2490. A duplicate copy of this sheet is enclosed.
- 4. CERTIFICATE OF MAILING UNDER 37 CFR § 1.10: The undersigned hereby certifies that this Transmittal Letter and the paper, as described in paragraph 1 hereinabove, are being deposited with the United States Postal Service as "Express Mail Post Office to Addressee", addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this June 21, 2005 under the Express Mail label No. EV723818888US.

Date: June 21, 2005

By:

Jøseph A. Herndon

Reg. No. 50,469

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300 SOUTH WACKER DRIVE
CHICAGO, ILLINOIS 60606
TELEPHONE (312) 913-0001

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UNITED STATES DEPARTMENT OF COMMERCE United States Patent and Trademark Office Address: COMMISSIONER FOR PATENTS P.O. Box. 1450 Alexandria, Virginia 22313-1450 www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO		
09/289,550	04/09/1999	RICHARD W. FRIESEN	3854	8747		
7:	590 04/21/2005	EXAMINER				
Mr. Steven Bo	orsand		KYLE, CHARLES R			
	Intellectual Property rside Plaza, Suite 1100		ART UNIT PAPER NUMBER			
Trading Techno	ology International, Inc.	3624				
Chicago, IL 6	0606		DATE MAILED: 04/21/2005			

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

		Application No.	Applicant(s)	
Office Antique C		09/289,550	FRIESEN ET AL.	
Office Action S	ummary	Examiner	Art Unit	
		Charles R Kyle	3624	
The MAILING DATE of Period for Reply	this communication appe	ars on the cover she	et with the correspondence add	aress
A SHORTENED STATUTOR THE MAILING DATE OF TH - Extensions of time may be available u after SIX (6) MONTHS from the mailin - If the period for reply specified above - If NO period for reply is specified above - Failure to reply within the set or exten Any reply received by the Office later earned patent term adjustment. See 3	IS COMMUNICATION. Inder the provisions of 37 CFR 1.138 Inder the provisions of 37 CFR 1.138 Index of this communication. Index this thirty (30) days, a reply Index the maximum statutory period will Index the period for reply will, by statute, Index the mailing the mailing the mailing the status of the status	6(a). In no event, however, n within the statutory minimum Il apply and will expire SIX (6 cause the application to beco	nay a reply be timely filed of thirty (30) days will be considered timely) MONTHS from the mailing date of this co me ABANDONED (35 U.S.C. § 133).	/. mmunication.
Status	•		•	
1) Responsive to commu	nication(s) filed on 14 De	cember 2004.		
2a)⊠ This action is FINAL.		action is non-final.	•	
			matters, prosecution as to the	merits is
closed in accordance v	vith the practice under Ex	x parte Quayle, 1935	C.D. 11, 453 O.G. 213.	
Disposition of Claims				,
4) Claim(s) <u>1,2,4,10-12,1</u> 4a) Of the above claim	<u>6,18,28 <i>and</i> 61-98</u> is/are (s) is/are withdraw			
5) Claim(s) is/are	allowed.			
6) Claim(s) <u>1,2,4,10-12,1</u>	<u>6,18,28 and 61-98</u> is/are	rejected.	•	
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Application Papers				
9) The specification is obj	ected to by the Examiner	:		
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1) Notice of References Cited (PTO-			view Summary (PTO-413) or No(s)/Mail Date	
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U.S. Patent and Trademark Office PTOL-326 (Rev. 1-04)

Office Action Summary

Part of Paper No./Mail Date 04172005

Art Unit: 3624

DETAILED ACTION

Information Disclosure Statement

Two references in the March 25, 2005 IDS, lined through, have not been considered. The Examiner was unable to find these documents. The other, initialed references have been considered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 2, 4, 10-12, 16, 18, 61-70 and 77-98 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,136,501 *Silverman* in view of US 5,844,572 *Schott*.

Concerning Claim 1, Silverman discloses the invention substantially as claimed including in a computer based method for facilitating the placement of an order for an item (Disclosure of the Invention, trading instruments) and for displaying transactional information to a user regarding the buying and selling of items (Fig. 5; Col. 4, line 66 to Col. 5, line 4; Col. 2, lines 17-28) in a system where orders comprise a bid type or an offer type (Figs. 4, 5 and 18, "Bid Side" and Offer Side"), and an order is generated for a quantity of the item at a specific value (Fig. 4, lower left hand box denoting "Value" and "Primary Quantity"), the method comprising:

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Displaying a plurality of bid indicators (an icon) each corresponding to at least one bid for a quantity of the item (Fig 4, eles. 73, 75, 77), each bid indicator at a location along a first a first axis of values corresponding to a value of the bid (Fig 4., "Absolute Value" axis), including

Displaying a plurality of offer indicators each corresponding to at least one offer for a quantity of the item (Fig 4, eles. 94, 96, 98), each bid indicator at a location along a first a first axis of values corresponding to the value of the bid (Fig 4., "Absolute Value" axis).

bids having different values (Fig. 4, elements 73 and 82); and

Silverman does not specifically disclose the limitations of positioning of indicators along a scaled axis of values corresponding to an associated value or, in response to a user initiated command, moving an indicator (icon) to a location on the axis. Schott discloses these features at Fig. 19a (scaled axis) and movement of an indicator to a location on the axis in response to a user initiated command at Col. 3, lines 20-25 and Col. 20, line 60 to Col. 21, line 28. Note particularly that the displays of Schott are concerned with display of financial information (Figs. 26A-26F) and its manipulation; this is the environment of Silverman. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of displaying bid/offer information of Silverman to include the manipulation of information along a scaled axis disclosed by Schott because this would have allowed dynamic creation of orders, reconfiguration of the graphical representations according to manipulation of the graph and simple and easy modification of underlying order data. Such capacity would allow users to readily perceive the status of a market and participate in the market efficiently through quick manipulation of their particular order information (icon).

Page 4

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As to Claim 2, Silverman discloses the invention substantially as claimed. See the discussion of Claim 1 above. Silverman does not specifically disclose icons adjustable for size based on order size, although the order size data is inherent in his displayed order icons at Fig. 4. Schott discloses manipulation of similar data through user manipulation of size to reflect quantity. See Abstract and at Col. 3, lines 20-25. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the user manipulation of underlying data disclosed by Schott in the invention of Silverman because this would have allowed a user to understand the relative size of orders through greater or lesser visual impact based on user controlled size.

With respect to Claim 4, Silverman discloses order icons containing quantity and value information at Fig. 4, lower left hand box denoting "Value" and "Primary Quantity"

With respect to Claim 10, Silverman discloses the invention substantially as claimed. See the discussions set forth above. Official Notice is taken that it is old and well known to distinguish a particular user's "icon" in activities so that the user can identify his/her position in the activity. For example, in the game of Monopoly, a player uses a distinct playing piece such as a locomotive or automobile. It would have been obvious to one of ordinary skill in the art at the time the invention was made to distinguish a bidder's icon with a visual characteristic so that a bidder could understand where he/she stood in the bidding with respect to other bidders' and could understand market trends.

With respect to Claim 11, Silverman discloses high and low price information at Fig. 4. Schott discloses an angled edge for an indicator at Col. 8, line 39. It would have been obvious to

and low values to a user.

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one of ordinary skill in the art at the time the invention was made to have included the angled edge indicator of *Schott* in the method of *Silverman* because this would indicate relatively high

Regarding Claims 12 and 16, see the discussion of Claim 1 above. These Claims also recite the processes of receiving orders and generating icons for new bids or offers, which is taught by *Silverman* at Figs. 4, 14 and 16.

As to Claim 18, see the discussions above. Silverman does not specifically disclose a third axis representing historical activity of the market. Schott disclose plural axes for information display at Col. 9, lines 58-65. This additional limitation of a historical chart is read to be like the bar chart representation of stock market activity, which is old and well-known in trading markets. The presentation of such historical information would have been obvious because this would have allowed traders to gain understanding of market trends.

As to Claim 61, bid and ask indicators are visually distinguished as being in different bid and offer columns in the display.

With respect to Claim 62, see the discussion of Claim 61.

With respect to Claims 63 and 70, it would have been obvious to modify Silverman with a marker denoting a value of interest because this would draw a trader's attention to a need to perform some important action. For example, a trader might wish to have a particular price identified on an axis as a reminder to trade at that particular price. A line would be an obvious choice to demark a value to determine if a value was "over the line." Such markers to attract attention to a value of interest are also old and well known as a "bug" on a scaled indicator dial, such as a heading indicator in an airplane.

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As to Claim 64, Silverman discloses dynamic updating of price and therefore icon position at Col. 4, lines 11-17.

Concerning Claim 65, Schott discloses selecting and dragging of an order icon at Col. 21, lines 1-30.

Concerning Claim 66, at Fig. 17, Silverman discloses modification of an order icon based on a transaction as the matching of a ten item bid with two offers comprising nine units.

The modified icon would be a remainder bid of one unit. See also Col. 17, lines 36-47.

Concerning Claim 67, Schott discloses increased size related to quantity of an icon at Fig. 19a and Col. 21, lines 1-30.

Concerning Claim 68, Silverman discloses values on an axis at Fig. 4, "Lowest" to "Highest."

As to Claim 69, Silverman discloses trading a commodity at Col. 1, lines 59-62.

As to Claim 77, see Silverman at Figs. 5 and 18.

As to Claim 78, see the discussion of Claim 77 and it would have been obvious to have the user's order icon display quantity so that the user would know his/her order quantity.

As to Claim 79, discloses contextual data at Fig. 5, "Display Depth of 3".

Concerning Claim 80, see the discussion of Claims 79 and 18.

With respect to Claim 81, Official Notice is taken that it was old and well known to display volume graphs of markets, showing trading volume. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify *Silverman* to include such volume graphs because this would provide additional perspective on the market for the user.

With respect to Claim 82, Schott discloses high and low values for a period of time.

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It would have been obvious to one of ordinary skill in the art at the time of the invention to modify *Silverman* to display such highs and lows because this would provide additional perspective on the market for the user.

Regarding Claims 83 and 84, Schott discloses a graduated axis with values displayed on a first axis at Fig. 19A, displayed "20" and "80". It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Silverman to have such a graduated displayed axis because this would provide users a ready measuring device to infer indicator/icon value; i.e. a measuring device.

Concerning Claim 85, Silverman discloses bid and offer indicators in Fig. 5, with bar indicators displayed. Of note is that Schott displays like bar indicators at Fig. 19A.

Concerning Claims 86 and 87, see the discussion of Claim 1 and Silverman discloses a computer system running software at Figs. 1 and 2 and related text.

With respect to Claim 88, see the discussions of Claims 87 and 73.

With respect to Claim 89, Silverman does not specifically disclose customizable derivatives. Official Notice is taken that it was old and well known to customize derivative values of financial parameters. For example, it was common to produce such derivative values in spreadsheet programs to provide users different perspectives on financial information. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Silverman to allow such derivatives to give users flexibility in the analysis of data. As set forth in the discussion of the Harrington reference below, interest is another way of understanding the price of a bond.

Concerning Claim 90, see the discussion of Claim 1 and 86 above.

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With respect to Claim 91, Silverman does not specifically disclose dragging to manipulate data. Schott discloses this limitation at Col. 20, lines 33-67. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Silverman to use dragging because this would provide the user with a familiar and simple way to manipulate financial data.

Regarding Claims 92 and 93, Silverman discloses quantities of bids and offers at Fig. 5.

Concerning Claims 94-96, see the discussion of Claim 70. The Claim language is understood to convey that an order is sent when an certain parameter values are obtained. This is read as the familiar limit order.

Concerning Claim 97, see the discussion of Claims 90 and 2.

With respect to Claim 98, see the discussion of Claims 92 and 93.

Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Silverman* in view of *Schott* and further in view of *Sacerdoti et al*.

As to Claim 28, Silverman teaches the invention substantially as claimed including an electronic trading system having orders and receipt of information for those orders, including a value axis, which information is displayed. See the discussion of Claim 1 for detailed reference. Silverman does not specifically disclose a quantity axis and display of icons with respect to the axis. Sacerdoti discloses this feature at Figs. 4, 5 and 8. It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the display of icons with respect to quantity axis because this would have provided additional information. A motivation to combine

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the teachings of the references is given by *Sacerdoti et al* at Col. 1, lines 20-64 as common subject matter of trading.

Also of note are the facts that *Sacerdoti et al* teach the features of icon size corresponding to quantity, bar graphs etc. (Col. 7, lines 36-45) and user adjustment of icon size to reflect quantity (Summary of the Invention). These features are recited in other claims rejected over other art.

Applicants' claims recite placement of an order in accordance with value and quantity, which is disclosed by *Silverman* at Col. 6, line 61 to Col. 7, line 13.

Claims 71-76 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Silverman* in view of *Schott* and further in view of US 6,161,099 *Harrington et al.*

As to Claims 71-73, Silverman discloses the invention substantially as claimed. See the discussion of Claim 1. Silverman does not disclose a derivative of price as an interest rate.

Harrington discloses interest rates as a derivative pricing mechanism for bonds at Col. 9, lines 40-55 and Fig. 15. It would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the interest rate derivative of Harrington for the price disclosed by Silverman because this derivative would provide a valuation method for a bid which was more familiar in the bond auction art, i.e. true interest cost.

As to Claim 74, a breadth of metrics would be obvious to provide maximum flexibility to the user. The same reasoning applies to Claim 75, where variation of measures would provide the user flexibility. Spreadsheet programs provide exactly this flexibility wherein users can define multiple parameters for results calculated by a spreadsheet.

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As to Claim 76, Official Notice is taken that it was old and well known to change parameters and update displayed information. For example, "Scenario" functions of spreadsheets allow users to select a new parameter (measure) and update the spreadsheet based on the new measures. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify *Silverman* to update displayed results because the use of multiple "measures" would give a user a deeper understanding of market activity.

Response to Arguments

Applicant's arguments filed December 14, 2004 have been fully considered but they are not persuasive.

As preliminary comment, the Examiner provides an overview of the application of the prior art in the rejections. First, *Silverman* discloses display of transactional information regarding the buying and selling of items in a system having orders (bids and offers), said orders having quantity and value, as set forth above. Elements of the Claims not disclosed by *Silverman* relate to particular display formats of the transactional information and manipulation of such information on a scaled axis to reflect value (quantity) on the axis. These are disclosed by *Schott* as set forth above, and the Examiner has provided a reasoned basis for the combination of the references. The Examiner has combined the references to show that it would have been obvious to use the display and manipulation features of *Schott* to present the financial transaction/order information of *Silverman* to obtain the particular benefits recited in the rejection above and restated here:

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of displaying bid/offer information of Silverman to include the

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manipulation of information along a scaled axis disclosed by Schott because this would have allowed dynamic creation of orders, reconfiguration of the graphical representations according to manipulation of the graph and simple and easy modification of underlying order data. Such capacity would allow users to readily perceive the status of a market and participate in the market efficiently through quick manipulation of their particular order information (icon).

The Examiner determined these benefits of this combination of references based on what an artisan of ordinary skill in trading arts would have known at the time of the invention; *no* use of Applicant's specification was made to realize the combination. Applicant's arguments addressed below fail to identify any missing limitation and do not effectively refute the motivation to combine.

Applicant begins argument at page 10, Remarks. At para. 4, Applicant asserts that neither *Silverman* nor *Schott* discloses "facilitating the placement of an order for an item and for displaying transactional information to a user regarding the buying and selling of items in a system". *Silverman* does disclose facilitating the placement of an order for an item (Fig. 19; Col. 18, line 10 to Col. Col. 19, line 31) and for displaying transactional information to a user regarding the buying and selling of items in a system (Fig. 5; Col. 4, line 66 to Col. 5, line 4; Col. 2, lines 17-28). See also the rejection of Claim 1. Applicant provides no suggestion of why these citations are deficient.

At para. 5, Applicant asserts that *Silverman* does not disclose displaying an order icon associated with an order by the user for a particular quantity of the item. See the discussion of Claim 1, which cites *Silverman* as disclosing this limitation at Fig 4, eles. 73, 75, 77. Applicant does not explain how his order "icons" distinguish over those of *Silverman*. Applicant argues that *Silverman* does not disclose moving an order icon on a scale of values, but the Examiner relied on *Schott* for this limitation.

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At last para., Applicant argues that *Schott* does not disclose what is effectively a product of the combined references. Applicant is correct that *Schott* relates to manipulation of representational dynamic graphics; it is this manipulation which is applied to the order icons for a particular quantity of items of *Silverman*. *Schott* relates to the manipulation of financial transaction information and *Silverman* provides the financial transaction information to which this manipulation is applied. In response to these arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In response to applicant's succeeding argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971), and the Examiner's comments re the combination above.

At page 11, first full paragraph, Applicant first asserts that *Silverman* does not display data in a way similar to Claim 1, but does not explain why this is so. Applicant cites no claimed feature that distinguishes over *Silverman*.

Applicant then argues that there is no motivation to combine within the references themselves. In response to applicant's argument that there is no suggestion to combine the

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references, the examiner recognizes that obviousness can only 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)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the Examiner has clearly set out an independently derived motivation to combine, which remains unrefuted.

Applicant next seems to argue that because *Silverman* discloses conventional order entry means, it is not amenable to modification by *Schott*. This line of argument would suggest that *any* reference disclosing known features could not be modified, a clearly incorrect view. Modification of known systems or methods to derive improvement is the essence of invention. However, *Silverman* is not so conventional as Applicant suggests. Applicant notes at page 10 that *Silverman* discloses the use of a mouse, which is known for "dragging." This same "dragging" technique is used by *Schott* to manipulate underlying financial data (analogous to the orders of *Silverman*). Applicant seems to suggest that the unobvious aspect of his invention is the use of a "dragging" technique for manipulating orders, a particular form of financial information. It is unclear why this would not be obvious to one of ordinary skill in the art of display and manipulation of financial data. Applicant provides no insight.

. In the last lines of this paragraph, Applicant repeats the argument that *Schott* does not contain motivation to combine with *Silverman*. See the discussion above.

Applicant's next substantive argument begins at page 12, first full paragraph. Applicant refers to the citation to *Harrington*, but argues that this reference does not disclose elements for

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which Silverman and Schott were relied on. Claim 72 was rejected over Silverman in view of Schott and further in view of Harrington. Harrington discloses the derivative information to be displayed on a scaled axis n a combination of Silverman and Schott. Applicant repeats arguments regarding suggestion to combine in the references and hindsight; these are addressed above. Applicant does not disclose any limitations absent from the references or effectively refute the combination.

The rejections are maintained.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles R Kyle whose telephone number is (703) 305-4458. The examiner can normally be reached on M-F 6:00-2:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vincent A Millin can be reached on (703) 308-1065. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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).

crk April 17, 2005 Examiner Charles Kyle

Charles / Sh

Sheet 1 of 1

FORM PTO-1449	U.S. Department of Commerce Patent and Trademark Office	Atty. Docket No.	Serial No.
(Rev. 2-32) O 1 P E CO	·	03-1106	09/289,550
	(Use several sheets if necessary)		
MAR 2 5 2005 W		Applicant: Friesen et al.	
		Filing Date:	Group:
		4/9/1999	2164

U.S. PATENT DOCUMENTS

Examiner Initial	Docu	ument Number	Date	Name	С	lass	Subclass	Filing Date if Appropriate

FOREIGN PATENT DOCUMENTS

	Document Number	Date	Country	Class	Subclass	Trans	lation
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EXAMINER: Initial if citation 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.

MCDONNELL BOEHNEN HULBERT & BERGHOFF 300 SOUTH WACKER ORIVE CHICAGO, ILLINOIS 60608 TELEPHONE (312) 913-0001

Sheet # of 1

FORM PTO-1449	•	U.S. Department of Commerce Patent and Trademark Office	Atty. Docket No.	Serial No.
(Rev. 2-32)	INFORMATION DISC STATEMENT BY APP	LOSURE	03-1106	09/289,550
	(Use several sheets if r	if necessary)	Applicant: Friesen et al.	·
			Filing Date: 4/9/1999	Group: 2164

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MCDONNELL BOEHNÉN HULBERT & BERGHOFF 300 SOUTH WACKER DRIVE CHICAGO, (LLINOIS 60505 TELEPHONE (312) 913-0001

Notice of References Cited Application/Control No. O9/289,550 Examiner Oharles R Kyle Applicant(s)/Patent Under Reexamination FRIESEN ET AL. Art Unit Page 1 of 1

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*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification					
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NON-PATENT DOCUMENTS

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"A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).) Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

U.S. Patent and Trademark Office PTO-892 (Rev. 01-2001)

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Part of Paper No. 04172005

First Hit

L6: Entry 52 of 59

File: JPAB

Oct 14, 2004

PUB-NO: JP02004287819A

DOCUMENT-IDENTIFIER: JP 2004287819 A TITLE: SECURITIES TRADING SYSTEM

PUBN-DATE: October 14, 2004

INVENTOR-INFORMATION:

NAME

COUNTRY

ARAI, AKIRA

ASSIGNEE-INFORMATION:

NAME

COUNTRY

TOSHIBA SOLUTIONS CORP

APPL-NO: JP2003078712 APPL-DATE: March 20, 2003

INT-CL (IPC): $\underline{G06} + \underline{17/60}$

ABSTRACT:

PROBLEM TO BE SOLVED: To make the trading conditions of stocks easy to see, to place an order without missing a timing and to quickly correct and cancel the order.

SOLUTION: A client computer 30 in the stock trading system comprises: an image display processing part 34 for displaying an ordering image 40 integrally displaying the cell 42 and purchase ordering information cell 43 of a purchase board and the cell 45 and sale ordering information 46 of a sale board so as to face each other across a price axis 41 displayed at the almost center of the image; a button and cell operation processing part 35 for reading pertinent information from a storage part 33 by the operation of the button or cell of the ordering image 40; and an order / agreement processing part 32 for performing ordering by the information read by the button and cell operation processing part 35.

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(54) 【発明の名称】有価証券売買システム

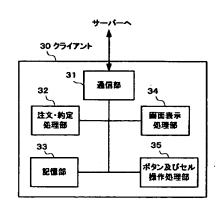
(57)【要約】

【課題】株の売買状況が見易く、タイミングを外さずに 注文を出せるようにし、また、注文の訂正・取消が迅速 に行えるようにする。

【解決手段】この株売買システムのクライアント30は、画面のほぼ中央に表示した価格軸41を挟んで対向するように買い板のセル42および買い発注情報セル43と売り板のセル45および売り発注情報セル46とを一体的に表示する発注画面40を表示する画面表示処理部34と、発注画面40のボタンあるいはセルが操作されたことで該当情報を記憶部33より読み出すボタン及びセル操作処理部35により読み出された情報にて発注を行う注文・約定処理部32とを有している。

【選択図】

図5



【特許請求の範囲】

【請求項1】

画面のほぼ中央に表示した価格軸を挟んで対向するように買いに関する時価情報のセルおよび買い注文数量情報のセルと売りに関する時価情報のセルおよび売り注文数量情報のセルとを一体的に配置すると共に同一画面内に注文数量を指定する数量ボタンを設けた発注・画面を表示する画面表示手段と、

この発注画面にセットする時価情報および注文数量情報を記憶した記憶手段と、

前記発注画面のセルあるいはボタンが操作されたことで該当情報を前記記憶手段より読み 出し注文を行う注文手段と

を具備したことを特徴とする有価証券売買システム。

【請求項2】

前記発注画面上の時価情報のセル部分に対して第1の選択操作が行われた場合、注文内容の一覧をプルダウンメニューで表示する手段と、

前記プルダウンメニューの注文内容の一覧の中のいずれかが選択操作された場合、注文の 訂正を行う注文訂正手段と

を具備したことを特徴とする請求項1記載の有価証券売買システム。

【請求項3】

前記発注画面上の時価情報のセル部分に対して第2の選択操作が行われた場合、確認メッセージを表示する手段と、

前記確認メッセージに対応し実行を促す手段と、前記実行を促す手段により実行が促され 20 た場合、注文の訂正を行う注文訂正手段と

を具備したことを特徴とする請求項1記載の有価証券売買システム。

【請求項4】

前記発注画面上の注文数量情報のセル部分に対して第3の選択操作が行われた場合、注文の取り消しを行う注文取消手段を具備したことを特徴とする請求項1記載の有価証券売買システム。

【発明の詳細な説明】

[0001]

【発明の属する技術分野】

本発明は、例えば証券などの有価証券を売買する有価証券売買システムに関する。

[0002]

【従来の技術】

従来、証券会社の売買部門の発注担当者は、証券取引所のコンピュータから時々刻々と送信されてきたデータを端末に表示させ、データの変化をみながら、所望のタイミングで所望の株の売買注文を行っており、常に複数の銘柄を監視しておく必要がある。

[0003]

株の売買注文を行う技術としては、例えば株式個別注文新規画面と株式個別注文修正画面とを別個に表示させて、新規注文あるいは修正注文を行い、この結果を注文一覧の画面に表示させることで、発注担当者が自分の出した売買注文の状況を常に把握できるようにした表示システムが提案されている(例えば特許文献1参照)。

[0004]

【特許文献1】

特開2002-215902号公報(図3、図4、図6)

[0005]

【発明が解決しようとする課題】

しかしながら、従来の表示システムにおける株式個別注文新規画面および株式個別注文修正画面は、銘柄コード、市場、売数量、買数量、指値等の欄にキーボードで数字あるいはコードを入力する形態をとっており、データの変化に対して売買注文あるいは修正注文の数秒のタイミングのずれが命取りになるという問題があった。

[0006]

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本発明はこのような課題を解決するためになされたもので、売買状況が見易く、タイミングを外さずに注文を出すことのできる有価証券売買システムを提供することを目的としている。

[0007]

【課題を解決するための手段】

上記した目的を達成するために、請求項1記載の発明の有価証券売買システムは、画面のほぼ中央に表示した価格軸を挟んで対向するように買いに関する時価情報のセルおよび買い注文数量情報のセルと売りに関する時価情報のセルおよび売り注文数量情報のセルとを一体的に配置すると共に同一画面内に注文数量を指定する数量ボタンを設けた発注画面を表示する画面表示手段と、この発注画面にセットする時価情報および注文数量情報を記憶した記憶手段と、前記発注画面のセルあるいはボタンが操作されたことで該当情報を前記記憶手段より読み出し注文を行う注文手段とを具備している。

[0.0.08]

なお、発注画面上の時価情報のセル部分に対して第1の選択操作、例えばマウスによる右 クリック等の操作が行われた場合、注文内容の一覧をプルダウンメニューで表示する手段 と、プルダウンメニューの注文内容の一覧の中のいずれかが選択操作された場合、注文の 訂正を行う注文訂正手段とを備えることで、簡単な操作で注文の訂正を行うことができる

また、発注画面上の時価情報のセル部分に対して第2の選択操作が行われた場合、確認メッセージを表示する手段と、確認メッセージに対応し実行を促す手段と、実行を促す手段により実行が促された場合、注文の訂正を行う注文訂正手段とを備えるか、あるいは発注画面上の注文数量情報のセル部分に対して第3の選択操作が行われた場合、注文の取り消しを行う注文取消手段を備えることで、簡単な操作で注文の訂正あるいは注文の取り消しを行うことができる。

[0009]

本発明では、画面のほぼ中央に表示した価格軸を挟んで対向するように買いに関する時価情報のセルおよび買い注文数量情報のセルと売りに関する時価情報のセルおよび売り注文数量情報のセルとを一体的に配置すると共に同一画面内に注文数量を指定する数量ボタンを設けた発注画面を表示することで、売り・買いの別が表示画面上、解り易くなり、複数の銘柄を監視しているユーザーは、注文の際に間違いを起こし難くなる。

また、この発注画面では、発注数量がボタン化されており、発注画面上の売り・買いいずれかのセルの所望の値段部分をクリックした後、発注画面に設けた発注数量ボタンをクリックするという2回のクリック操作で発注を行うことができるので、一瞬の判断で結果が決まる有価証券の売買において最適なタイミングで発注をかけることができる。

[0010]

【発明の実施の形態】

以下、本発明の実施の形態を図面を参照して詳細に説明する。

図1は本発明に係る一つの実施形態の株売買システムの構成を示す図、図2は図1の株売買システムのサーバーの構成を示す図、図3は図2のサーバーの価格情報DBを示す図、図4は図2のサーバーの銘柄属性DBを示す図、図5はクライアントの構成を示す図であ

[0011]

図1に示すように、この株売買システムは、証券取引所Aの株式売買システム1と、証券取引所Bの株式売買システム2と、証券取引所Aの時価情報配信システム3と、証券取引所Bの時価情報配信システム4と、それぞれのシステムと専用回線5,6,7,8を介して接続された証券会社Cの有価証券売買システムとしての株式トレーディングシステム9とから構成されている。

株式トレーディングシステム9は、サーバーコンピュータ10(以下サーバー10と称す)と、このサーバー10にLAN20などのネットワークを介して接続されたクライアントコンピュータ30(以下クライアント30と称す)とから構成されている。

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[0012]

図2に示すように、サーバー10は、注文受付DB11、注文DB12、約定DB13、価格DB14、銘柄属性DB15、通信部16、仲介処理部17などを有している。 注文DB12には、例えば銘柄コード、売買、発注数量、発注価格、発注時刻、発注市場、執行条件、社内処理用項目等の注文データが格納される。約定DB13には、例えば銘柄コード、売買、約定数量、約定価格、約定時刻、約定市場、執行条件、社内処理用項目等の約定データが格納される。

[0013]

図3に示すように、価格情報DB14には、取引毎の「呼び値」の刻みを示す情報、各銘 柄毎の制限値幅などの情報が格納されている。

図4に示すように、銘柄属性DB15には、例えば銘柄コードに関連付けて売買数量、売 買単位、銘柄名称、上場市場、額面金額等の各銘柄毎の情報が格納されている。

[0014]

通信部16は、各クライアント30からの注文を受信する注文受信機能、この注文受信機能により受信された注文電文に対する受付電文を一斉配信する受付電文一斉配信機能、注文編集機能により編集された注文を該当株式売買システム(株式売買システム1あるいは該当株式売買システム2)へ送信する機能、仲介処理部17の通知編集機能により編集された通知を通知電文としてLAN20へ一斉配信する通知配信機能、時価情報を受信し各クライアント30へ配信する時価情報受信及び配信機能、各クライアント30からの時価情報要求を受信する時価情報要求受信機能等を有している。

[0015]

仲介処理部17は、通信部16の注文受信機能により受信された注文電文を取引所毎の注文に編集する注文編集機能、通信部16の受付電文一斉配信機能により一斉配信されたサーバーの受付電文とクライアント30からの注文電文を注文DB12に記憶する注文記憶機能、株式売買システム1,2からそれぞれ受信された取引所毎の通知を編集する通知編集機能、通信部16の通知配信機能によりLAN20へ一斉配信された通知電文を注文受付DB11及び約定DB13に記憶する通知記憶機能、時価情報配信システム3,4からそれぞれ受信された時価情報を価格DB14及び銘柄属性DB15へ記憶する時価情報記憶機能等を有している。

[0016]

サーバー10及びクライアント30は、ROM、RAMなどのメモリ、オペレーティングシステム(以下OSと称す)を含む各種ソフトウェアの記憶領域としてのハードディスク装置、OS環境化で起動したソフトウェアの処理を実行する制御装置としてのCPU、モニタ等の表示装置、キーボードおよびマウス等の入力装置、LANボード等のインターフェース装置等を備えるものである。マウスは、右クリック操作(第1の選択操作)、左クリックでのドロップ操作(第2の選択操作)、ダブルクリック操作(第3の選択操作)などが行える2ボタン式のものが用いられている。

[0017]

クライアント30の各種ソフトウェアの一つとして本システムを実現するクライアントソフトウェアがある。このクライアントソフトウェアは、図5に示すように、通信部31、 注文・約定処理部32、メモリ領域等の記憶部33、画面表示処理部34、ボタン及びセル操作処理部35等の機能を有している。

画面表示処理部34は、メニュー画面(図示せず)と、このメニュー画面のメニュー選択 操作により発生する発注画面40(図6参照)等を表示する。メニュー画面には、発注画 面40で注文入力および発注された注文が一覧表示される。このメニュー画面には、リア ルタイムで注文のオーダステータスの変更が示される。またこのメニュー画面には、市場 価格の変更による各注文のワーニング状態もリアルタイムで表示される。メニュー画面の メニューバーには、オーダーツール、モニターツール、システムツール、発注、表示、ウィンドウ、ヘルプなどがあり、オーダーツールの「発注画面」を選択することで、発注画面40の画面構成(レイアウト等)については

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後述する。

画面表示処理部34は、ボタン及びセル操作処理部35により記憶部33より読み出された情報を発注画面40の該当欄に表示する。

ボタン及びセル操作処理部35は、発注画面40に表示されている各ボタン、セルが操作された場合に、その操作に応じた情報を記憶部33より読み出し画面表示処理部34に渡す。また、ボタン及びセル操作処理部35は、発注画面40上のボタン操作および/またはセル操作に応じた株の売買注文、訂正注文、取消注文等の注文情報、時価情報を注文・約定処理部32に渡す。

[0018]

通信部31は、サーバー10へ注文電文を送信すると共に、サーバー10から一斉配信された注文受付電文を受信する注文送受信機能、サーバー10から一斉配信された通知電文を受信する通知受信機能、サーバー10から配信された時価情報電文を受信する時価情報受信機能、発注画面40上における時価情報要求操作により発生した時価情報要求を時価情報要求電文としてサーバー10へ送信する時価情報要求送信機能等を有している。

[0019]

注文・約定処理部32は、通信部31の注文送受信機能により受信された注文受付電文及び通知電文を記憶部33に記憶する機能、通信部31の時価情報受信機能により受信された時価情報電文を画面表示処理部34へ出力する機能、ボタン及びセル操作処理部35により生成された注文情報を記憶部33に記憶すると共に、その注文情報、時価情報要求を通信部31へ渡し送信させる。

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記憶部33は、注文情報記憶領域、訂正情報記憶領域、取消情報記憶領域、価格情報記憶領域、銘柄属性記憶領域、注文受付情報および通知情報記憶領域、発注画面の各発注数量ボタン、セルに対応する売買情報、発注数量および価格情報の記憶領域等を有しており、注文・約定処理部32により該当情報が記憶される。

つまり、記憶部33には、発注画面40の情報欄にセットする時価情報および注文情報が記憶されており、ボタン及びセル操作処理部35により該当情報が読み出されて発注画面40の情報欄にセットされる。

[0020]

図 6 に示すように、発注画面 4 0 は、画面のほぼ中央に縦に値段軸 4 1 が設けられている。値段軸 4 1 の向かって右側が「買い」に関する情報欄、値段軸 4 1 の向かって左側が「売り」に関する情報欄とされている。

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つまり、この発注画面 4 0 には、値段軸 4 1 を挟んで左右に対向するように 2 つのシステム (株式売買システム、時価情報配信システム)の「買い」に関する情報欄と「売り」に関する情報欄が一体化した状態で表示される。

値段軸41の直ぐ右隣に買いの「板」情報である時価情報表示セル42が設けられている。時価情報表示セル42には、時価情報配信システム3,4より受信された該当銘柄の買いの時価情報が表示される。時価情報とは、どの価格帯にどれだけの数量で買いの注文が出されているかを示す情報である。この時価情報表示セル42の直ぐ右隣に買いの発注情報である自己発注数量セル43が設けられている。自己発注数量セル43には、このクライアント30から買い注文を出し該当証券取引所の株式売買システム(株式売買システム1あるいは株式売買システム2)から通知された買い注文を受理した情報が表示される。自己発注数量セル43の最下部には買いの自己発注を全て取り消すボタン44(以下全消ボタン44と称す)が設けられている。

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[0021]

一方、値段軸41の直ぐ左隣に売りの「板」情報である時価情報表示セル45が設けられている。時価情報表示セル45には、時価情報配信システム3、4より受信された該当銘柄の売りの時価情報が表示される。時価情報とは、どの価格帯にどれだけの数量で売りの注文が出されているかを示す情報である。この時価情報表示セル45の直ぐ左隣に売りの発注情報である自己発注数量セル46には、このクライアント30から売り注文を出し該当証券取引所の株式売買システム(株式売買シ

ステム 1 あるいは株式売買システム 2)から通知された売り注文を受理した情報が表示される。自己発注数量セル 4 6 の最下部には売りの自己発注を全て取り消すボタン 4 7 (以下全消ボタン 4 7 と称す)が設けられている。これらセル群の情報が常に変化する。これらセル群の上には、本日の始値、高値、安値、現在値、前日比等の株価情報 欄 5 0 が設けられている。

これらセル群の右隣には、発注数量ボタン部 5 1 と詳細設定ボタン 5 2 が設けられている。発注数量ボタン部 5 1 は、8 個の発注数量ボタンからなり、各発注数量ボタンには、注文対象の銘柄の売買単位に応じて数が重ならないような数量が設定されている。この例では、「6 6 0 2」という銘柄コードの1000株単位の株に対して1000,2000,3000,6000,35000,50000,100000等といった数量で各発注数量ボタンが設定されている。詳細設定ボタン 5 2 は、選択操作することにより上記 8 個の各発注数量ボタンの数量をカスタマイズする画面が表示されるので、この画面への数量変更操作により記憶部 3 3 の発注数量記憶領域に記憶されている該当発注数量ボタンの数量情報が変更され、該当発注数量ボタンの数量表示と発注数量を変えることができる。

[0022]

上記セル群の左隣には、売り買いを指定する売買欄61、価格欄62、数量欄63、執行条件を指定する指定欄64、信用新規、現金等の取引を指定する指定欄65、空売りを指定する指定欄66、数量限定を指定する指定欄67、価格条件を指定する指定欄68、発注ボタン69、発注条件指定用のラジオボタン70、代金、未約込数、株数等の表示欄71等が設けられている。売買欄61には、デフォルト値として「買い」が設定されている。価格欄62には、時価情報表示セル42,45(板情報のセルの価格行)でクリックされた価格が表示される。直接キー入力することも可能である。数量欄63には、発注数量ボタン部51により指定された発注数量が表示される。直接キー入力することも可能である。

[0023]

執行条件を指定する指定欄64には、寄付、引け、不成、なし等が設定されており、いずれかを選択することにより指定可能である。指定欄67には、「あり」、「なし」のいずれかを選択して指定可能である。記憶部33に、発注数量を制限する情報が設定されており、指定欄67に「あり」と指定することで、記憶部33の設定値よりも大きな数量注ができなくなるので、誤った発注数の入力による損害を抑えることができる。指定欄68は、現在指値、優先指値、成行残数指値、成行残数取消、なしの中からいずれかを選択することがである。記憶部33に、現在指値、優先指値、成行残数指値、成行残数取消、なし等の情報が設定されており、指定欄68でいずれかを選択することで、の代残数取消、なし等の情報が設定されており、指定欄68でいずれかを選択するごとであり、「発注」、「保存」、「予約」の中のいずれかを指定できる。デフォルトでは、「発注」のボタンがチェックされており、通常の発注の際には選択操作が不要になっている。発注がタン69は、発注条件指定用のラジオボタン70にて「保存」、「予約」等にされていた発注処理を実行するためのボタンである。

[0024]

この発注画面40の上部には、銘柄コード入力欄72、銘柄表示欄73、取引所を指定する取引所指定欄74、画面初期化ボタン75、閉じるボタン76がほぼ横一列に設けられている。銘柄コード入力欄72には、キー入力された銘柄コードが表示される。銘柄表示欄73には、キー入力された銘柄コードにマッチした銘柄名が表示される。取引所指定欄74には、キー入力された銘柄コードにマッチした銘柄が上場している証券取引所の中で優先的に設定されている市場名が表示される。取引所指定欄74に表示されるダウンリストボタンにより市場名の変更が可能である。画面初期化ボタン75は、この発注画面40の表示内容を初期化する操作を行うボタンである。閉じるボタン76は、この発注画面400を閉じる操作を行うボタンである。

[0025].

ここで、発注画面40における操作とその操作に応じた動作について説明する。 執行条件(寄付、引け、不成、なし)を指定する場合、いずれかを選択(任意)した後、 価格条件(任意)、数量、売買を選択する。

自己発注数量セル46には、自己売り注文数量が価格ごとに表示される。自己発注数量セ ル43には、自己買い注文数量が価格ごとに表示される。

したがって、ユーザーが数量の表示されている部分をクリックすると、注文・約定処理部 3 2 は、価格訂正、取消しの選択画面を表示するので、表示された選択画面にて価格訂正 、取消しを行うことができる。複数注文から構成されている数量も同一の操作を行うこと になる。

時価情報表示セル45には、板情報が表示されているので、価格に対応する欄をクリック すると、注文・約定処理部32は、売買欄61を売りに変更し、該当する価格を価格欄6 2に表示する。同時に注文・約定処理部32は、フォーカスを数量欄63へ移す。

ユーザーが値段軸41の価格に対応する自己発注数量セル43の欄をクリックすると、注 文・約定処理部32は、売買欄61を買いに変更し、該当する価格を価格欄に表示する。 同時に注文・約定処理部32は、フォーカスを数量へ移す。既に数量が入力されている場 合、注文・約定処理部32は、クリックされた価格で発注を行う。発注後、受注画面40 の内容は保持される。

ラジオボタン70の「保存」をON(指定)すると、保存状態となり、メニュー画面のサ マリー部分に表示される。

既に価格が入力されている場合、数量ボタンをクリックすると、注文・約定処理部32は 、即時発注を行う。逆に、数量が入力されている場合に、時価情報表示セル42,45の 所望の価格をクリックすると、注文・約定処理部32は、即時発注を行う。

注文・約定処理部32は、レジューム機能を備えており、クライアント30を再度立ち上 げたときに、前回終了時に開かれていた内容で発注画面40を表示させる。

[0026]

以下、図7~図13のフローチャートを参照してこの株売買システムの動作を説明する。 まず、図7のフローチャートを参照してこの実施形態の株売買システムにおいて、発注画 面を表示して時価情報を表示および発注画面を閉じる動作について説明する。

クライアント30において、ユーザーが起動操作を行い注文・約定処理部32および画面 表示処理部34を起動すると、モニタにメニュー画面が表示される。このメニュー画面の メニューバーより「発注画面」をクリック操作すると、注文・約定処理部32および画面 表示処理部34はモニタに発注画面40を表示する(S101)。この発注画面40にて 、ある一つの銘柄についての注文入力(シングル注文)を行うことが可能になる。なお、 発注画面40は、MAXで10画面起動できる。

ユーザーが、キー操作によって、クライアント30のモニタに表示された発注画面40の 銘柄コード入力欄72に銘柄コードを入力すると(S102)、注文・約定処理部32は 、入力された銘柄コードをサーバー10へ送る。

サーバー10では、クライアント30から送られてきた銘柄コードが通信部16により受 信されると、仲介処理部17は、銘柄属性DB15の銘柄情報と、受信された銘柄コード とのマッチング処理を行い、一致した銘柄の情報が存在すると、価格情報DB14の価格 情報を読み出してその銘柄の情報(銘柄名、市場名、価格等)をクライアント30へ返信 する。

[0027]

クライアント30では、通信部31により銘柄の情報が受信されると、注文・約定処理部 32は、銘柄の情報を記憶部33のそれぞれの領域に記憶して銘柄情報のメモリを作成す るすると共に(S103)、画面表示処理部34に渡す。画面表示処理部34は、銘柄表 示欄73に銘柄名を表示し、取引所指定欄74に該当市場名を表示すると共に値段軸41 に該当銘柄の価格帯を表示する。

これと共に、注文・約定処理部32は、銘柄の情報を通信部31へ渡し通信部31は、時 価情報要求を行う(S104)。これにより、LAN20等のネットワークおよびサーバ 50

-10を通じて時価情報要求電文が該当銘柄が上場している時価情報配信システム3,4 へ送信される。

[0028]

時価情報配信システム3, 4では、クライアント30からの時価情報要求電文を受信すると、該当銘柄の時価情報(板情報)を返信する。

時価情報配信システム3、4から返信された時価情報(板情報)がサーバー10およびLAN20等のネットワークを通じてクライアント30に受信されると、クライアント30では、画面表示処理部34により時価情報(板情報)が各時価情報表示セル42、45にリアルタイムに表示される(S105)。値段軸41には現値が黄色で表示される。時価情報表示セル45において売り気配は青色で表示される。時価情報表示セル42において買い気配は赤色で表示される。なお、既にユーザーが本システムでこの銘柄について発注をかけている場合、各時価情報表示セル42、45の価格覧の隣の自己発注数量セル44,46に価格毎の未約定数量合計が表示される。

以降、この銘柄についての株の売買を行った後、ユーザーが銘柄コードを変更する操作を行うか(S 1 0 6)、あるいは閉じるボタン 7 6 がクリック操作されると(S 1 0 7)、 注文・約定処理部 3 2 は、時価情報削除処理を実行する(S 1 0 8)。

時価情報削除処理を行う場合、注文・約定処理部32は、時価情報削除要求をLAN20を通じてサーバー10へ送信し、サーバー10に記憶されている時価情報が削除されたことの応答を受ける。そして、ユーザーが閉じるボタン76をクリック操作(押下)すると(S109のY)、注文・約定処理部32は、発注画面40を閉じて処理を終了する。【0029】

続いて、図8、図9のフローチャートを参照して新規注文を行う場合の動作を説明する。 上記S105の処理によりモニタに発注画面40が表示された状態で、ユーザーは、各時 価情報表示セル42、45の時価情報を監視しつつ所望のタイミングで発注することにな る。

[0030]

そして、あるタイミングで、ユーザーが、時価情報表示セル42,45のうち、買い側のセル42の所望の価格帯をクリック操作すると(S201)、ボタン及びセル操作処理部35は、操作位置に対応する「値段」と「買い」の情報を記憶部33から読み出して(S202)、画面表示処理部34に渡すので、それぞれの情報が画面表示処理部34によって発注画面40の該当欄(価格欄62と売買欄61)にセットされる(S203)。また、ユーザーが売り側のセル45をクリックした場合も該当「値段」と「売り」の情報が記憶部33から読み出されて発注画面40の価格欄62と売買欄61にセットされる。続いて、ユーザーが、発注画面40の発注数量ボタン部51の中の所望の数量の発注数量ボタンをクリック操作すると(S204)、ボタン及びセル操作処理部35は、該当「数量」の情報を記憶部33から読み出して(S205)、画面表示処理部34と注文・約定処理部32に渡すので、その情報が画面表示処理部34によって発注画面40の数量欄63にセットされると共に、注文・約定処理部32は、発注画面40にセットされた内容で新規注文電文を生成して送信(S206)、つまり発注を行う。

以上のように2回のクリック操作で「売り・買い」、「価格」、「数量」のセットと同時 4(に発注を行えるので、タイミングを逃すこと無く発注することができる。

[0031]

発注後、サーバー10よりLAN20を通じて受付電文が受信されると(S207)、注文・約定処理部32は、受付&通知情報を作成して(S208)、記憶部33に記憶する

また、サーバー10よりLAN20を通じて通知電文が受信されると(S209)、注文・約定処理部32は、受付&通知情報を作成して(S210)、記憶部33に記憶する。そして、注文・約定処理部32は、作成した受付&通知情報を画面表示処理部34に渡すので、その情報が画面表示処理部34によって発注画面40の該当欄、つまり自己発注数量セル43あるいは自己発注数量46の該当価格の行に表示される(S211)。

[0032]

次に、図10,図11のフローチャートを参照して発注内容が訂正された場合の訂正動作 について説明する。

発注後、発注数量を削減するため、ユーザーが、発注画面 4 0 の自己発注数量表示セル 4 3 あるいは自己発注数量 4 6 の該当価格の行を右クリック(第 1 の選択操作)すると(図 1 0 の S 3 0 1)、ボタン及びセル操作処理部 3 5 は、その右クリック操作に従って、発注画面 4 0 にプルダウンメニューを表示する(S 3 0 2)。プルダウンメニューには、発注内容一覧(訂正選択 1 銘柄 6 6 0 2 x x x x 時刻 1 3 2 3 2 9、未約定 2 0 0 0、執行条件なし…、1000株削減、成り行き訂正等)が表示されている。

そして、プルダウンメニューから所望のものがユーザーによって選択操作されると、ボタン及びセル操作処理部35は、訂正情報を注文・約定処理部32に渡し、注文・約定処理部32は、渡された訂正情報をチェックする(S303)。

このチェックの結果、訂正内容に誤りがない場合は、訂正情報を作成し(S 3 0 4)、記憶すると共に訂正電文をLAN20を通じてサーバー10へ送信する(S 3 0 5)。

サーバー10を通じて該当株式売買システム(株式売買システム1あるいは株式売買システム2)で訂正内容が受け付けられた後、返信されてきた受付電文が受信されると(S306)、注文・約定処理部32は、受付&通知情報を作成して(S307)、記憶すると共に、それを画面表示処理部34に通知するので、画面表示処理部34は、発注画面40に「訂正処理中」の旨を表示する(S308)。

そして、該当株式売買システム(株式売買システム1あるいは株式売買システム2)より 2 の訂正処理結果通知電文がサーバー10およぞLAN20を通じて受信されると(S309)、注文・約定処理部32は、受付&通知情報を作成して(S310)、記憶すると共に、それを画面表示処理部34に通知するので、画面表示処理部34は、発注画面40の該当欄に訂正結果後の値を表示する(S311)。

一方、発注後の発注画面40にて、ユーザーが、自己発注数量表示セル43あるいは自己発注数量46の訂正対象の価格の行を左クリックで選択し、希望価格のところでドロップ(第2の選択操作)すると(図10のS313)、ボタン及びセル操作処理部35は、例えば「340円に価格変更しますか?」等の確認メッセージとOKボタンおよびキャンセルボタンからなるダイアログボックスを表示して(S314)、ユーザーに確認を促す。そして、ユーザーによりOKボタンがクリック操作されると、ボタン及びセル操作処理部35は、訂正情報を注文・約定処理部32に渡し、注文・約定処理部32は、上記S30

なお、価格変更の場合、画面表示処理部34は、元の価格欄の数字をそのまま保持して、 変更後のセルの背景色を変えて表示する。

[0033]

3以降で説明した処理を実行する。

次に、図12、図13のフローチャートを参照して発注内容の取り消し動作について説明' する。

発注後、全ての発注内容を取り消すために、ユーザーが、発注画面 4 0 の自己発注数量セル 4 3 、 4 6 の最下部にある全消ボタン 4 4 をクリック操作すると(S 4 0 1)、ボタン及びセル操作処理部 3 5 は、そのクリック操作に従って、発注画面 4 0 を覆う形で確認画面 8 0 を表示する(S 4 0 2)。この確認画面 8 0 には、発注内容の詳細一覧が表示され、画面下部には「よろいしいですか?」の確認メッセージと O K ボタンおよびキャンセルボタンが表示される。

[0034]

ここで、ユーザーが、確認画面80のOKボタンを選択操作すると(S403のY)、ボタン及びセル操作処理部35は、取消情報を注文・約定処理部32に渡し、注文・約定処理部32は、渡された取消情報をチェックする(S404)。

このチェックの結果、訂正内容に誤りがない場合は、訂正情報を作成し(S405)、記憶すると共に訂正電文をLAN20を通じてサーバー10へ送信する(S406)。 訂正電文がサーバー10を通じて該当株式売買システム(株式売買システム1あるいは株 式売買システム 2)で受け付けられた後、返信されてきた受付電文が通信部 3 1 によって受信されると(S 4 0 7)、注文・約定処理部 3 2 は、受付 & 通知情報を作成して(S 4 0 8)、記憶すると共に、それを画面表示処理部 3 4 に通知するので、画面表示処理部 3 4 は、発注画面 4 0 に「訂正処理中」の旨を表示する。

そして、該当株式売買システム(株式売買システム1あるいは株式売買システム2)よりの訂正処理結果通知電文がサーバー10およぞLAN20を通じて受信されると(S409)、注文・約定処理部32は、受付&通知情報を作成して(S410)、記憶すると共に、それを画面表示処理部34に通知するので、画面表示処理部34は、発注画面40の該当欄から注文の値を消去(削除)する(S411)。

[0035]

なお、発注後、ユーザーが、発注画面 4 0 の自己発注数量セル 4 3 , 4 6 をダブルクリック操作(第 3 の選択操作)すると(S 4 1 2) 、ボタン及びセル操作処理部 3 5 は、その操作により、確認画面 8 0 を表示させることなく、上記 S 4 0 4 以降に説明した注文の取り消し処理を即時実行する。

[0036]

このようにこの実施形態の株売買システムによれば、画面のほぼ中央に表示した価格軸4 1を挟んで対向するように買い板および買い発注情報と売り板および売り発注情報とをセルの形式で表示する発注画面40をユーザインターフェースとして設けたことで、売り・買いの別が表示画面上、解り易くなり、複数の銘柄を監視しているディーラーは、注文の際に間違いを起こし難くなる。

[0037]

また、所望銘柄の板情報を表示させた発注画面40では、発注数量がボタン化されており、発注画面40上の売り・買いいずれかのセルの所望価格帯をクリックした後、発注画面40の右側に設けた発注数量ボタン部51をクリックするという2回のクリック操作で発注することができるので、一瞬の判断で結果が決まる株の取引を行う場合等に、タイミングを逃すことなく発注をかけることができる。

また、例えば価格を訂正する際にはクリック&ドロップで対応でき、また数量を訂正する際には右クリックで対応可能である。さらに、発注を取り消す(キャンセルする)場合は、ダブルクリックで対応でき、操作性を高めることができる。

[0038]

なお、本発明は上記実施形態のみに限定されるものではない。

上記実施の形態では、サーバー10に価格情報DB14、銘柄属性DB15を備え、都度クライアント30側から銘柄コードをサーバー10に送信し、サーバー10側でマッチング処理をして、一致した情報をクライアント30へ返信する構成にて説明したが、クライアント30の起動時に、サーバー10の価格情報DB14、銘柄属性DB15をクライアント30のメモリに読み込み、以後、クライアント30側では、メモリ上のデータとマッチング処理をするように構成してもよい。

[0039]

さらに、上記実施形態におけるクライアント 3 0 およびサーバー 1 0 のソフトウェアは、フレキシブルディスクなどのコンピュータが読み出し可能な記憶媒体に記憶されていても良く、また、ソフトウェア(プログラム)単体として L A N やインターネットなどのネットワーク上を伝送されるものでもよい。この場合、記憶媒体に記憶されたソフトウェア(プログラム)をコンピュータが読み出したり、 L A N やインターネット上のサイト(サーバ)からコンピュータがダウンロードしてハードディスクにインストールすることにより、各実施形態における処理が可能になる。つまり、本発明におけるソフトウェア(プログラム)は、コンピュータと独立した記憶媒体に記憶されているものだけに限らず、 L A N やインターネットなどの伝送媒体を介して流通されるものも含まれる。

なお、プログラムは、メモリ、フレキシブルディスク、ハードディスク、光ディスク(CD-ROM、CD-R、DVDなど)、光磁気ディスク(MOなど)、半導体メモリなどの記憶媒体に、コンピュータが読み取り可能に記憶されているものであれば、その言語形

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式、記憶形式はいずれの形態であっても良い。

[0040]

また、記憶媒体からコンピュータにインストールされたプログラムの指示に基づき、コンピュータ上で稼動しているOS(オペレーティングシステム)や、データベース管理ソフト、ネットワークソフトなどのMW(ミドルウェア)などが本実施形態を実現するための各処理の一部を実行しても良い。

さらに、記憶媒体は、コンピュータと独立した媒体に限らず、LANやインターネットなどにより伝送されたプログラムをダウンロードして記憶または一時記憶した記憶媒体も含まれる。また、記憶媒体は一つに限らず、複数の媒体から本実施形態における処理が実行される場合も本発明における記録媒体に含まれ、媒体構成はいずれの構成であっても良い 10

[0041]

なお、コンピュータは、記憶媒体に記憶されたプログラムに基づき、本実施形態における 各処理を実行するものであって、パソコンなどの一つからなる装置、複数の装置がネット ワーク接続されたシステムなどのいずれの構成であっても良い。

また、コンピュータとは、パーソナルコンピュータ (パソコン) に限らず、通信機器、情報処理機器に含まれる演算処理装置、マイコンなども含み、プログラムによって本発明の機能を実現することが可能な機器、装置を総称している。

[0042]

【発明の効果】

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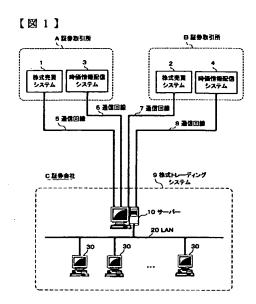
以上説明したように本発明によれば、売買状況が見易く、タイミングを外さずに注文を出すことができる。

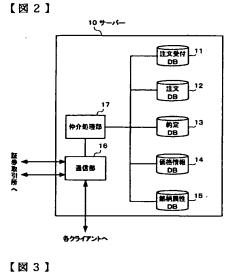
【図面の簡単な説明】

- 【図1】本発明の一つの実施形態の株売買システムの構成を示す図。
- 【図2】図1の株売買システムのサーバーの構成を示す図。
- 【図3】図2のサーバーの価格情報DBを示す図。
- 【図4】図2のサーバーの銘柄属性DBを示す図。
- 【図5】クライアントの機能構成を示す図。
- 【図6】クライアントに表示される発注画面を示す図。
- 【図7】この株売買システムにおいて、時価情報を表示する動作を示すフローチャート。 3
- 【図8】この株売買システムにおいて、新規注文の際の動作を示すフローチャート。
- 【図9】この株売買システムにおいて、新規注文の際の動作を示すフローチャート。
- 【図10】この株売買システムにおいて、注文の訂正を行う動作を示すフローチャート。
- 【図11】この株売買システムにおいて、注文の訂正を行う動作を示すフローチャート。
- 【図12】この株売買システムにおいて、注文の取り消しを行う動作を示すフローチャー ト。
- 【図13】この株売買システムにおいて、注文の取り消しを行う動作を示すフローチャート。

【符号の説明】

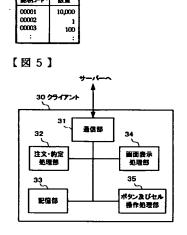
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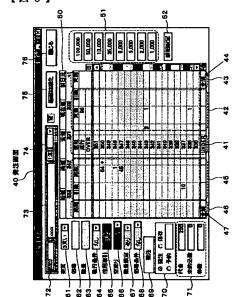


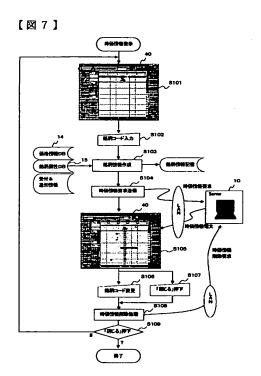
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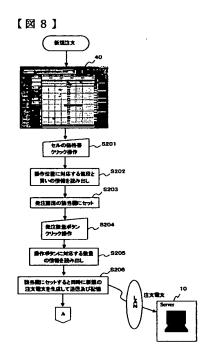


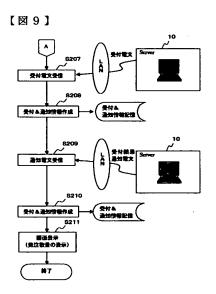


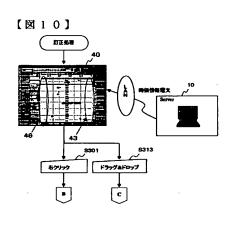
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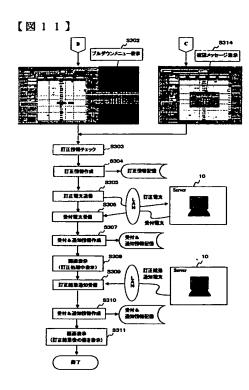


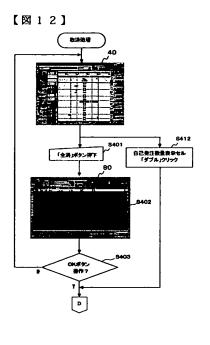


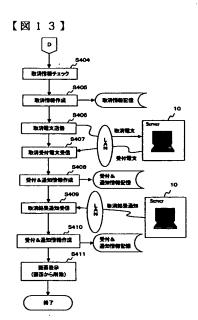












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Application No.	Applicant(s)
09/289,550	FRIESEN ET AL.
Examiner	Art Unit
Charles R Kyle	3624

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U.S. Patent and Trademark Office

Part of Paper No. 04172005

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U.S. Patent and Trademark Office

Part of Paper No. 04172005

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

(Case No. 03-1106)

he Application of:

Friesen et al. Group Art Unit: 3624

Serial No. 09/289,550 Examiner: Kyle

Filed: April 9, 1999

For: User Interface for an Electronic Trading

System

Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450

Sir:

TRANSMITTAL LETTER

In regard to the above identified application:

- 1. We are transmitting herewith the attached:
 - A. Information Disclosure Statement
 - B. Form PTO 1449
 - C. Cited References
 - D. Return Receipt Postcard.
- 2. With respect to additional fees, attached is a check in the amount of \$180.00.
- 3. Please charge any additional fees or credit overpayment to Deposit Account No. 13-2490. A duplicate copy of this sheet is enclosed.
- 4. CERTIFICATE OF MAILING UNDER 37 CFR § 1.8: The undersigned also hereby certifies that this Transmittal Letter and the paper, as described in paragraph 1 hereinabove, are 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, Virginia 22313-1450 on this 22nd day of March 2005.

 $\mathbf{B}\mathbf{y}$

Marthew J. Sampso

Reg. No. 35,999

MCDONNELL BOEHNEN HULBERT & BERGHOFF 300 SOUTH WACKER DRIV CHICAGO, ILLINOIS 80608 TELEPHONE (312) 913-000



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

(Case No. 03-1106)

			PATENT
In the Applie	cation of:)	
)	
	Richard W. Friesen et al.)	Art Unit: 2164
)	
Serial No.	09/289,550)	
)	Examiner: Charles Kyle
Filed:	April 9, 1999	Ś	•
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Title:	User Interface for an Electronic Trading	Ś	
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	27210111	,	

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

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Dear Sir:

Pursuant to 37 C.F.R. Section 1.97-1.98, and in accordance with the duty of candor set forth in 37 C.F.R. §1.56, applicants wish to make the following references of record in the above-identified application. Copies of the references cited below are enclosed along with a copy of completed PTO Form-1449 and fee pursuant to 37 C.F.R. § 1.97 (c) and 1.17(p).

I. DOCUMENTS

- 1. APT Brochure, LIFFE Exchange, circa 1990*
- 2. Trading Screen, INTEX of Bermuda, circa 1984*
- 3. Weber, Information Technology in the Major International Financial Markets, April 7, 1993
- 4. Trading Screen, TIFFE Exchange, circa 1989-1990*
- 5. Trading Screen, MEFF Exchange, circa 1990*
- 6. Cavaletti, Order Routing Article, Futures Magazine, February 1997
- 7. Aurora Article, CBOT, circa 1989*
- 8. One Click Trading Options, Trading Technologies, circa 1998
- 9. Trading Screen, SWX Exchange, circa 1990*
- 10. Expanding futures and options trading around the world, around the clock, GLOBEX, circa 1989*

McDonnell Boehnen Hulbert & Berghoff 300 South Wacker Drive Chicago, Illinois 60606 (312) 913-0001

- 11. Hansell, The computer that ate Chicago, Institutional Investor, February 1989
- 12. Globex Report: An update on the CME Global electronic exchange, February 10, 1989
- 13. NYMEX Access Documents, New York Mercantile Exchange, February 28, 1992
- 14. CATS Traders' Manual, Toronto Stock Exchange, September 30, 1977
- 15. Market Watch, Trading Screen, date not available
- 16. Grummer, Peake, Sellers, Preliminary Feasibility Study, Bermudex Ltd., November 1980
- 17. Peake, Mendellson, The ABCs of trading on a national market system, Appendix C of Preliminary Feasibility Study, Bermudex Ltd., September 1997
- 18. Peake, The last 15 meters, Appendix E of Preliminary Feasibility Study, Bermudex Ltd., June 15, 1997

II. DISCUSSION

Pursuant to the duty of disclosure provided by 35 C.F.R. § 1.56 and §§ 1.97-98, the Applicants wish to make the foregoing references of record in the above-identified application. These references were raised in connection with ongoing litigation involving U.S. Patents Nos. 6,766,304 and 6,772,132, which are commonly owned by Trading Technologies International Inc., in a lawsuit bearing the caption Trading Technologies International Inc. v. eSpeed Inc., Docket No. 04 C 5312, United States District Court for the Northern District of Illinois.

Despite Applicants' belief that some or all of these references are cumulative of what may have already been cited, out of an abundance of caution Applicants are submitting these references.

No representation is intended as to the relative importance of any portion of the references, and this statement is not a representation that the cited references even constitute "prior art" within the meaning of 35 U.S.C. sections 102 or 103 nor as an admission that the information is considered to be material to patentability. It should be noted that the dates associated with those references marked with an asterisk ("*") are as provided by the Defendant eSpeed, Inc. in the above-referenced litigation. Applicants make no representation regarding the accuracy of these dates. Applicants submit that these documents, whether taken alone or in

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combination with others previously of record, fail to show or suggest the claimed subject matter.

Applicants request that the Examiner consider the entirety of the documents and make them of record in this application.

Respectfully Submitted,

Date: March 22, 2005 Matthew

Reg. No. 35,999

FORM PTO-1449 (Rev. 2-32)	U.S. Department of Commerce Patent and Trademark Office	Atty. Docket No.	Serial No.		
OIPE	INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)	03-1106	09/289,550		
MAR 2 5 2005	(00000)	Applicant:			
MADE		Friesen et al.			
		Filing Date:	Group:		
		4/9/1999	2164		

U.S. PATENT DOCUMENTS

Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date if Appropriate

FOREIGN PATENT DOCUMENTS

	Document Number	Date	Country	Class	Subclass	Trans	Translation	
						Yes	No	

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc).

APT Brochure, LIFFE Exchange, circa 1990*
Trading Screen, INTEX of Bermuda, circa 1984*
Weber, Information Technology in the Major International Financial Markets, April 7, 1993
 Trading Screen, TIFFE Exchange, circa 1989-1990*
Trading Screen, MEFF Exchange, circa 1990*
Cavaletti, Order Routing Article, Futures Magazine, February 1997

EXAMINER	DATE CONSIDERED

EXAMINER: Initial if citation 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.

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FORM PTO-1449 (Rev. 2-32)		Department of Commerce tent and Trademark Office	Atty. Docket No.	Serial No.	
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			Friesen et al.		
			Filing Date:	Group:	
			4/9/1999	2164	

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc).

	Aurora Article, CBOT, circa 1989*	
	One Click Trading Options, Trading Technologies, circa 1998	
	Trading Screen, SWX Exchange, circa 1990*	
	Expanding futures and options trading around the world, around the clock, GLOBEX, circa 1989*	
	Hansell, The computer that ate Chicago, Institutional Investor, February 1989	
	Globex Report: An update on the CME Global electronic exchange, February 10, 1989	
	NYMEX Access Documents, New York Mercantile Exchange, February 28, 1992	
	CATS Traders' Manual, Toronto Stock Exchange, September 30, 1977	
	Market Watch, Trading Screen, date not available	
	Grummer, Peake, Sellers, Preliminary Feasibility Study, Bermudex Ltd., November 1980	
Peake, Mendellson, The ABCs of trading on a national market system, Appendix C of Prelimina Study, Bermudex Ltd., September 1997		
	Peake, The last 15 meters, Appendix E of Preliminary Feasibility Study, Bermudex Ltd., June 15, 1997	
	Declaration of Brendan Bradley in Case No. 04 C 5312, November 18, 2004	
	Memorandum Opinion Published February 9, 2005, of Judge James B. Moran in Case No. 04 C 5312	

EXAMINER	DATE CONSIDERED

EXAMINER: Initial if citation 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.

McDONNELL BOEHNEN HULBERT & BERGHOFF 300 SOUTH WACKER DRIVE CHICAGO, ILLINOIS 60608 TELEPHONE (312) 913-0001

T-575 P.01

Job-524

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE (Case No. 03-1106)

In re Application of:)		
Richard W. Friesen et al.	Examiner: Charles R. Kyle		
	Group Art Unit: 3624 RECEIVED		
Serial No.: 09/289,550	CENTRAL FAX CENTE		
Filed: April 9, 1999	Fax No.: 703-872-9306 DEC 1 4 2004		
For: User Interface for an Electronic Trading System) No. of Pages: 13)		

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

FACSIMILE TRANSMITTAL LETTER

Sir:

In regard to the above identified application:

- 1. We are transmitting herewith the attached:
 - a. Response to Office Action mailed September 15, 2004.
- 2. With respect to fees:
 - No fees are due at this time.
 - Please charge any additional fees or credit overpayment to Deposit Account No. 13-2490.
- CERTIFICATE OF MAILING UNDER 37 CFR § 1.8: The undersigned hereby certifies that this 3. Transmittal Letter and the paper, as described in paragraph 1 hereinabove, are being transmitted to the USPTO facsimile number 703-872-9306, according to 37 CFR 1.6(d) addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on December 14, 2004.

Date: December 14, 2004

Respectively Automitted.

Brian R. Harris Reg. No. 45,900

MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP 300 SOUTH WACKER DRIVE CHICAGO, ILLINOIS 60606 TELEPHONE (312) 913-0001

PAGE 1/13 * RCVD AT 12/14/2004 5:35:50 PM (Eastern Standard Time) * SVR:USPTO-EFXRF-1/2 * DNIS:8729306 * CSID:3129130002 * DURATION (mm-ss):03-34

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Examiner: Charles R. Kyle

Group Art Unit: 3624

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE (Case No. 03-1106)

In re Application of:

Richard W. Friesen et al.

Serial No.: 09/289.550

Filed: April 9, 1999

For: User Interface for an Electronic Trading

System

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

RESPONSE TO OFFICE ACTION MAILED SEPTEMBER 15, 2004

Sir:

In response to the Office Action of September 15, 2004, the Applicants submit the following:

Listing of Claims begins on page 2 of this paper – no amendments have been made. **Remarks/Arguments** begin on page 10 of this paper.

LISTING OF CLAIMS:

3129130002

1. (Previously presented) A computer based method for facilitating the placement of an order for an item and for displaying transactional information to a user regarding the buying and selling of items in a system where orders comprise a bid type or an offer type, and an order is generated for a quantity of the item at a specific value, the method comprising:

displaying a plurality of bid indicators, each corresponding to at least one bid for a quantity of the item, each bid indicator at a location along a first scaled axis of values corresponding to a value associated with the at least one bid;

displaying a plurality of offer indicators, each corresponding to at least one offer for a quantity of the item, each offer indicator at a location along the first scaled axis of values corresponding to a value associated with the at least one offer;

displaying an order icon associated with an order by the user for a particular quantity of the Item: and

in response to a user initiated command, moving the order icon to a location associated with a value along the first scaled axis of values.

- 2. (Previously presented) The method of claim 1 wherein the order icon is adjustable by the user to reflect the quantity of the order.
- 3. (Canceled)
- 4. (Previously presented) The method of claim 1 further comprising: receiving a request for an order responsive to a user action specifying a quantity of the item and value for the order.
- 5. **9**. (Canceled)
- 10. (Previously presented) The method of claim 1 further comprising: displaying the order icon placed by the user with a first visual characteristic; and displaying the bid and offer indicators corresponding to orders placed by other users

with a second visual characteristic.

- 11. (Previously presented) The method of claim 1 further comprising: displaying each of the plurality of bid and offer indicators having an edge which is angled toward the first scaled axis of values.
- 12. (Previously presented) The method of claim 1 further comprising: receiving market information representing a new order to buy a quantity of the item for a specified value;

in response to the received market information, generating a bid indicator whose size corresponds to the quantity of the item bid for; and

placing the bid indicator at a location along the first scaled axis of values corresponding to the specified value of the bid.

13.-15. (Canceled)

16. (Previously presented) The method of claim 1 further comprising: receiving market information representing a new order to sell a quantity of the item for a specified value;

in response to the received market information, generating an offer indicator whose size corresponds to the quantity of the item for which the offer is made; and

placing the offer indicator at a location along the first scaled axis of values corresponding to the specified value of the offer.

17. (Canceled)

18. (Previously presented) The method of claim 1 further comprising:
generating a second axis, perpendicular to the first scaled axis of values,
representing time;

generating a third axis, perpendicular to the second axis, representing value; and displaying a historical chart representing values of the item responsive to time and

value with respect to the second and third axes.

Claims 19 - 27, (Canceled)

28. (Previously presented) The method of claim 1 further comprising:
displaying a plurality of order tokens having different values;
receiving a selection for an order token; and
moving the order token to a user specified location with respect to the first scaled
axis of values which corresponds to the desired value;

thereby enabling placing of the order in accordance with the desired value.

29 - 60. (Canceled)

- 61. (Previously presented) The method of claim 1 further comprising visually distinguishing bid indicators from offer indicators.
- 62. (Previously presented) The method of claim 1 further comprising visually distinguishing the order icon from the plurality of bid and offer indicators.
- 63. (Previously presented) The method of claim 1 further comprising displaying a marker representing a value of interest at a location associated with a value on the first scaled axis of values.
- 64. (Previously presented) The method of claim 63 wherein the location at which the marker is displayed is updated dynamically.
- 65. (Previously presented) The method of claim 1 wherein the user initiated command comprises selecting the order icon using a pointer device and dragging the order icon to the location.

- 66. (Previously presented) The method of claim 1 further comprising modifying the order icon based on a transaction.
- 67. (Previously presented) The method of claim 1 wherein the size of the order icon is associated with the quantity of the order.
- 68. (Previously presented) The method of claim 1 wherein the values on the first scaled axis of values represent price.
- 69. (Previously presented) The method of claim 1 wherein the item comprises a commodity.
- 70. (Previously presented) The method of claim 63 wherein the marker comprises a line.
- 71. (Previously presented) The method of claim 1 wherein the values on the first scaled axis of values represent a qualitative measure other than price.
- 72. (Previously presented) The method of claim 71 wherein the qualitative measure represents a derivative of price.
- 73. (Previously presented) The method of claim 72 wherein the derivative of price is an interest rate, a bond cost, an implied interest rate, or implied volatility of the item.
- 74. (Previously presented) The method of claim 71 wherein the qualitative measure represents any metric by which an item can be valued.
- 75. (Previously presented) The method of claim 71 wherein different qualitative measures can be chosen by the user.
- 76. (Previously presented) The method of claim 71 further comprising receiving a command to select a new qualitative measure and updating the display of the plurality of bid

indicators and the plurality of offer indicators to locations along the first scaled axis of values corresponding to values associated with the new qualitative measure.

- 77. (Previously presented) The method of claim I wherein the bid indicator displays the quantity of the item associated with the bid and the offer indicator displays the quantity of the item associated with the offer.
- 78. (Previously presented) The method of claim 1 wherein the order icon displays the quantity of the order placed by the user.
- 79. (Previously presented) The method of claim 1 further comprising displaying contextual data along with the plurality of bid and offer indicators.
- 80. (Previously presented) The method of claim 79 wherein the contextual data is displayed as a historical chart along the first scaled axis of values.
- 81. (Previously presented) The method of claim 79 wherein the contextual data is displayed as a volume graph.
- 82. (Previously presented) The method of claim 79 wherein the contextual data indicates the high and low values of the item for a period of time.
- 83. (Previously presented) The method of claim 1 wherein the first scaled axis is graduated in intervals such that each interval represents a particular value.
- 84. (Previously presented) The method of claim 1 further comprising the step of displaying the values along the first scaled axis of values.
- 85. (Previously presented) The method of claim 1 wherein the each of plurality of bid and offer indicators are graphically represented to the user as icons.

86. (Previously presented) A computer readable medium having program code recorded thereon for execution on a computer for displaying transactional information to a user regarding the buying and selling of items in a system where orders comprise a bid type or an offer type, and an order is generated for a quantity of an item at a specific value, the method comprising:

a first program code for displaying a plurality of bid indicators, each corresponding to at least one bid for a quantity of the item, each bid indicator at a location along a first scaled axis of values corresponding to a value associated with the at least one bid;

a second program code for displaying a plurality of offer indicators, each corresponding to at least one offer for a quantity of the item, each offer indicator at a location along the first scaled axis of values corresponding to a value associated with the at least one offer:

a third program code for displaying an order icon associated with an order by the user for a particular quantity of the item; and

a fourth program code for, in response to a user initiated command, moving the order icon to a location associated with a value along the first scaled axis of values.

87. (Previously presented) A computer based method for displaying transactional information to a user regarding the buying and selling of items in a system where orders comprise a bid type or an offer type, and an order is generated for a quantity of the item at a specific value, the method comprising:

displaying a plurality of bid indicators, each corresponding to at least one bid for a quantity of the item;

displaying a plurality of offer indicators, each corresponding to at least one offer for a quantity of the item;

wherein the plurality of bid indicators and the plurality of offer indicators are displayed at locations corresponding to values along a scaled axis such that the values represent a derivative of price for the item.

88. (Previously presented) The method of claim 72 wherein the derivative of price is an interest rate, a bond cost, an implied interest rate, or implied volatility of the item.

- 89. (Previously presented) The method of claim 87 wherein the derivative of price is customizable.
- 90. (Previously presented) A computer based method for facilitating the placement of an order for an item and for displaying transactional information to a user regarding the buying and selling of items in a system where orders comprise a bid type or an offer type, and an order is generated for a quantity of the item at a specific value, the method comprising:

displaying a plurality of bid indicators, each corresponding to at least one bid for a quantity of the item, each bid indicator at a location along a first scaled axis of values corresponding to a value associated with the at least one bid; and

displaying a plurality of offer indicators, each corresponding to at least one offer for a quantity of the item, each offer indicator at a location along the first scaled axis of values corresponding to a value associated with the at least one offer;

displaying an order token associated with at least one preset order parameter; and in response to a user initiated command, moving the order token to a location associated with a desired value along the first scaled axis of values.

- 91. (Previously presented) The method of claim 90 wherein the user initiated command comprises dragging the order token to the location.
- 92. (Previously presented) The method of claim 90 wherein the at least one preset order parameter comprises a quantity for an order to be sent.
- 93. (Previously presented) The method of claim 90 wherein the at least one preset order parameter comprises a bid type or an offer type.
- 94. (Previously presented) The method of claim 90 wherein the order token represents an order to be sent, wherein the order to be sent would have order parameters equal to the at least one preset order parameter of the order token and a value equal to the desired value associated with the location the order token was moved to.

- 95. (Previously presented) The method of claim 90 wherein an order having order parameters equal to the at least one preset order parameter of the order token and a value equal to the desired value is sent to a transaction server.
- 96. (Previously presented) The method of claim 95 wherein, in response to being sent, the displayed order token becomes an order icon representing the user's own order for the item.
- 97. (Previously presented) The method of claim 90 wherein the size of the order token is adjustable by the user to reflect the quantity of the order to be sent.
- 98. (Previously presented) The method of claim 90 wherein the order token is associated with a plurality of preset order parameters.

REMARKS

First, Applicants wish to thank the Examiner for the thorough examination. In the Office Action of September 15, 2004, claims 1, 2, 4, 10-12, 16, 18, 28 and 61-98 were rejected. Applicant hereby responds to the Office Action based on the following remarks.

Rejections under 35 U.S.C. § 112 were withdrawn

In the Office Action of September 15, 2004, on page 2, the Examiner withdraws the rejections under 35 U.S.C. 112, second paragraph, of the prior office action.

Rejections under 35 U.S.C. § 103(a)

On page 2 of the Office Action, the Examiner rejected claims 1, 2, 4, 10-12, 16, 18, 61-70 and 77-98, of which claims 1, 86 and 87 are independent, under 35 U.S.C. 103(a) as being unpatentable over US 5,136,501 (Silverman) in view of US 5,844, 572 (Schott). Claims 1, 86, 87 and 90 are of independent form. Applicants traverse these rejections and respectfully request reconsideration.

Claim 1 is a method for "facilitating the placement of an order for an item and for displaying transactional information to a user regarding the buying and selling of items in a system..." Claims 86 and 90 have limitations that mirror the limitations found in claim 1. Neither Silverman nor Schott show such methods.

Applicants agree with the Examiner that Silverman does not show "displaying an order icon associated with an order by the user for a particular quantity of the item," or "in response to a user initiated command, moving the order icon to a location associated with a value along the first scaled axis of values" as called for by claim 1. (See page 3 of the Office Action). And, while Silverman describes having a "keystation" for displaying certain data provided by the host computer not along a scaled axis, Silverman teaches order entry by "[t]the order entry function is preferably conventionally achieved through data entry using a conventional keyboard, pointing device such as a mouse or any other conventional data entry tool," with emphasis added.

To make up for this deficiency, the Examiner turns to Schott. However, Schott also does not show displaying "an order icon associated with an order by the user for a particular quantity of the item." Rather, Schott only shows a method and apparatus for altering data by

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manipulation of representational dynamic graphs. Manipulating a dynamic graph as taught in Schott does not teach facilitating placement of an order to buy or sell items by "displaying an order icon associated with an order by the user for a particular quantity of the item; and in response to a user initiated command, moving the order icon to a location associated with a value along the first scaled axis of values." Indeed, Schott makes no reference to, or mention whatsoever of, facilitating order placement – let alone by an "order icon" or an "order by the user." Instead, the displays in Schott that the Examiner refers to as displaying "financial information" are some configurable pie charts and a spreadsheet representing a "training budget" – not order placement. Further, the use of hindsight reasoning in coming to this proposed conclusion is impermissible, and therefore, one cannot include knowledge gleaned only from Applicants' disclosure.

Even more, the Examiner suggests that it would have been obvious to "modify the method of displaying bid/offer information of Silverman" to include manipulation of information of Schott to come up with Applicants' claimed invention. First, Silverman does not show a method for displaying bid/offer information as the Examiner has proposed. While display of bid/offer data may be used to generate "a display" at a keystation in Silverman (see the Examiner's comment on page 4, first paragraph, of the Office Action), the reference does not teach displaying the data in a way similar to claim 1. Even if Silverman did show these limitations, which Silverman does not, it is not enough to demonstrate the obviousness of the claimed subject matter, for the mere fact that Silverman could be modified to include the manipulation of information of Schott does not make such a modification obvious unless the references suggests the desirability of doing so - which they do not. In fact, just the opposite occurs, Silverman prefers order entry using conventional means, which is contrary to Applicants' unconventional method of facilitating the placement of an order for an item and for displaying transactional information by allowing an order icon to be moved to a location associated with a value along the first scaled axis of values in response to a user initiated command. Silverman's preferred use of conventional order entry would not suggest (either expressly or impliedly) the use or need of any modifications. Further, there is no suggestion in Schott to combine any of its functionality to provide a method for facilitating the placement of an order for the buying and selling of items.

Claim 87 is a method for "displaying transactional information to a user regarding the

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buying and selling of items in a system where orders comprise a bid type or an offer type." The method further includes displaying bid indicators and offer indicators at locations corresponding to values along a scaled axis such that the values "represent a derivative of price for the item." In rejecting claim 87, the Examiner referred back to the discussion of claim 1, but claim 1 does not have this limitation. The Examiner rejected claim 72, which has a similar limitation as claim 87, therefore Applicants' will address that rejection. Thus, claim 87 is allowable for similar reasons.

Applicants agree with the Examiner that Silverman does not disclose a derivative of price. (See page 9 of the Office Action). To make up for this deficiency, the Examiner then turns to US 6,161,099 (Harrington), and particularly, to section Col. 9, lines 40-55 and Fig. 15, to suggest it would have been obvious to substitute the interest rate derivative of Harrington for the price disclosed by Silverman..." Applicants respectfully disagree. Harrington (or any of the other references, for that matter) simply does not teach or suggest displaying indicators at locations corresponding to values representing a derivative of price. As described in section of Harrington highlighted by the Examiner, having a user enter "a coupon for each maturity and an aggregate purchase price, and at the Issuer's option, a price or yield for each maturity," does not expressly or impliedly teach or suggest displaying indicators corresponding to a derivative of price along a scaled axis. Moreover, Silverman does not suggest, and one could not imply without hindsight and knowledge from Applicants' disclosure, that it would be desirable to display bid and offer indicators along an axis, let alone, displaying these indicators corresponding to a derivative of price along an axis

For at least the foregoing reasons, independent claims 1, 86, 87 and 90 are allowable, and the remaining rejected claims depend either directly or indirectly from one of the independent claim. Applicants therefore submit that the present application is in condition for allowance and notice to that effect is hereby requested. If the Examiner believes that further dialog would expedite consideration of the application, he is invited to contact the Applicants' patent agent, Mark Triplett at (312) 476-1151.

Date: December 14, 2004

Brian R. Harris Reg. No. 45,900

Respectfully submitted.

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PAGE 13/13 * RCVD AT 12/14/2004 5:35:50 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/2 * DNIS:8729306 * CSID:3129130002 * DURATION (mm-ss):03-34

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/289,550	04/09/1999	RICHARD W. FRIESEN	3854	8747
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	Vice President Intellectual Property			PAPER NUMBER
	erside Plaza, Suite 1100 ology International, Inc.	ART UNIT PAPER NUMBER 3624		
Chicago, IL	50606		DATE MAILED: 09/15/200	4

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

	Application No.	Applicant(s)					
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Office Action Summary	09/289,550	FRIESEN ET AL.					
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A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION. - Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication. - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely. - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication. - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).							
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11)☐ The oath or declaration is objected to by the Ex	aminer. Note the attached Office	Action or form PT	ΓO-152.				
Priority under 35 U.S.C. § 119							
 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b) Some * c) None of: 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)). * See the attached detailed Office action for a list of the certified copies not received. 							
Attachment(s) 1) Notice of References Cited (PTO-892)	4) ☐ Interview Summary Paper No(s)/Mail Da						
Notice of Draftsperson's Patent Drawing Review (PTO-948) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date			O-152)				

U.S. Patent and Trademark Office PTOL-326 (Rev. 1-04) Art Unit: 3624

DETAILED ACTION

Claim Rejections - 35 USC § 112

Rejections under 35 U.S.C. 112, second paragraph, of the prior office action are withdrawn.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 2, 4, 10-12, 16, 18, 61-70 and 77-98 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,136,501 Silverman in view of US 5,844,572 Schott.

Concerning Claim 1, Silverman discloses the invention substantially as claimed including in a computer based method for facilitating the placement of an order for an item (Disclosure of the Invention, trading instruments) and for displaying transactional information to a user regarding the buying and selling of items (Fig. 5; Col. 4, line 66 to Col. 5, line 4; Col. 2, lines 17-28) in a system where orders comprise a bid type or an offer type (Figs. 4, 5 and 18, "Bid Side" and Offer Side"), and an order is generated for a quantity of the item at a specific value (Fig. 4, lower left hand box denoting "Value" and "Primary Quantity"), the method comprising:

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Displaying a plurality of bid indicators each corresponding to at least one bid for a quantity of the item (Fig 4, eles. 73, 75, 77), each bid indicator at a location along a first a first axis of values corresponding to a value of the bid (Fig 4., "Absolute Value" axis), including bids having different values (Fig. 4, elements 73 and 82); and

Displaying a plurality of offer indicators each corresponding to at least one offer for a quantity of the item (Fig 4, eles. 94, 96, 98), each bid indicator at a location along a first a first axis of values corresponding to the value of the bid (Fig 4., "Absolute Value" axis).

Silverman does not specifically disclose the newly claimed limitations of positioning of indicators along a scaled axis of values corresponding to an associated value or, in response to a user initiated command, moving an indicator (icon) to a location on the axis. Schott discloses these features at Fig. 19a (scaled axis) and movement of an indicator t a location on the axis in response to a user initiated command at Col. 3, lines 20-25 and Col. 20, line 60 to Col. 21, line 28. Note particularly that the displays of Schott are concerned with display of financial information (Figs. 26A-26F) and its manipulation; this is the environment of Silverman. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of displaying bid/offer information of Silverman to include the manipulation of information along a scaled axis disclosed by Schott because this would have allowed dynamic creation of orders, reconfiguration of the graphical representations according to manipulation of the graph and simple and easy modification of underlying order data. Such capacity would allow users to readily perceive the status of a market and participate in the market efficiently through quick manipulation of their particular order information (icon).

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Applicants' remarks include arguments that *Silverman* discloses a logical model for user bid/offer activity, rather than actual display of such activity. At page 14 of the remarks, Applicants argue that *Silverman* is not concerned with the actual graphical display of information. As set forth at Col. 2, lines 17-28 of *Silverman*, actual display of bid/offer data is used to generate a display at a keystation. *Schott* discloses the newly claimed limitations of a scaled axis and user movement of icons.

As to Claim 2, Silverman discloses the invention substantially as claimed. See the discussion of Claim 1 above. Silverman does not specifically disclose icons adjustable for size based on order size, although the order size data is inherent in his displayed order icons at Fig. 4. Schott discloses manipulation of similar data through user manipulation of size to reflect quantity. See Abstract and at Col. 3, lines 20-25. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the user manipulation of underlying data disclosed by Schott in the invention of Silverman because this would have allowed a user to understand the relative size of orders through greater or lesser visual impact based on user controlled size.

With respect to Claim 4, Silverman discloses order icons containing quantity and value information at Fig. 4, lower left hand box denoting "Value" and "Primary Quantity"

With respect to Claim 10, Silverman discloses the invention substantially as claimed. See the discussions set forth above. Official Notice is taken that it is old and well known to distinguish a particular user's "icon" in activities so that the user can identify his/her position in the activity. For example, in the game of Monopoly, a player uses a distinct playing piece such

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as a locomotive or automobile. It would have been obvious to one of ordinary skill in the art at the time the invention was made to distinguish a bidder's icon with a visual characteristic so that a bidder could understand where he/she stood in the bidding with respect to other bidders' and could understand market trends.

With respect to Claim 11, Silverman discloses high and low price information at Fig. 4. Schott discloses an angled edge for an indicator at Col. 8, line 39. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have included the angled edge indicator of Schott in the method of Silverman because this would indicate relatively high and low values to a user.

Regarding Claims 12 and 16, see the discussion of Claim 1 above. These Claims also recite the processes of receiving orders and generating icons for new bids or offers, which is taught by *Silverman* at Figs. 4, 14 and 16.

As to Claim 18, see the discussions above. *Silverman* does not specifically disclose a third axis representing historical activity of the market. Schott disclose plural axes for information display at Col. 9, lines 58-65. This additional limitation of a historical chart is read to be like the bar chart representation of stock market activity, which is old and well-known in trading markets. The presentation of such historical information would have been obvious because this would have allowed traders to gain understanding of market trends.

As to Claim 61, bid and ask indicators are visually distinguished as being in different bid and offer columns in the display.

With respect to Claim 62, see the discussion of Claim 61.

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With respect to Claims 63 and 70, it would have been obvious to modify Silverman with a marker denoting a value of interest because this would draw a trader's attention to a need to perform some important action. For example, a trader might wish to have a particular price identified on an axis as a reminder to trade at that particular price. A line would be an obvious choice to demark a value to determine if a value was "over the line." Such markers to attract attention to a value of interest are also old and well known as a "bug" on a scaled indicator dial, such as a heading indicator in an airplane.

As to Claim 64, Silverman discloses dynamic updating of price and therefore icon position at Col. 4, lines 11-17.

Concerning Claim 65, Schott discloses selecting and dragging of an order icon at Col. 21, lines 1-30.

Concerning Claim 66, at Fig. 17, Silverman discloses modification of an order icon based on a transaction as the matching of a ten item bid with two offers comprising nine units.

The modified icon would be a remainder bid of one unit. See also Col. 17, lines 36-47.

Concerning Claim 67, Schott discloses increased size related to quantity of an icon at Fig. 19a and Col. 21, lines 1-30.

Concerning Claim 68, Silverman discloses values on an axis at Fig. 4, "Lowest" to "Highest."

As to Claim 69, Silverman discloses trading a commodity at Col. 1, lines 59-62.

As to Claim 77, see Silverman at Figs. 5 and 18.

As to Claim 78, see the discussion of Claim 77 and it would have been obvious to have the user's order icon display quantity so that the user would know his/her order quantity.

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As to Claim 79, discloses contextual data at Fig. 5, "Display Depth of 3".

Concerning Claim 80, see the discussion of Claims 79 and 18.

With respect to Claim 81, Official Notice is taken that it was old and well known to display volume graphs of markets, showing trading volume. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify *Silverman* to include such volume graphs because this would provide additional perspective on the market for the user.

With respect to Claim 82, Schott discloses high and low values for a period of time. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Silverman to display such highs and lows because this would provide additional perspective on the market for the user.

Regarding Claims 83 and 84, Schott discloses a graduated axis with values displayed on a first axis at Fig. 19A, displayed "20" and "80". It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Silverman to have such a graduated displayed axis because this would provide users a ready measuring device to infer indicator/icon value; i.e. a measuring device.

Concerning Claim 85, Silverman discloses bid and offer indicators in Fig. 5, with bar indicators displayed. Of note is that Schott displays like bar indicators at Fig. 19A.

Concerning Claims 86 and 87, see the discussion of Claim 1 and Silverman discloses a computer system running software at Figs. 1 and 2 and related text..

With respect to Claim 88, see the discussions of Claims 87 and 73.

With respect to Claim 89, Silverman does not specifically disclose customizable derivatives. Official Notice is taken that it was old and well known to customize derivative

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values of financial parameters. For example, it was common to produce such derivative values in spreadsheet programs to provide users different perspectives on financial information. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify *Silverman* to allow such derivatives to give users flexibility in the analysis of data. As set forth in the discussion of the *Harrington* reference below, interest is another way of understanding the price of a bond.

Concerning Claim 90, see the discussion of Claim 1 and 86 above.

With respect to Claim 91, Silverman does not specifically disclose dragging to manipulate data. Schott discloses this limitation at Col. 20, lines 33-67. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Silverman to use dragging because this would provide the user with a familiar and simple way to manipulate financial data.

Regarding Claims 92 and 93, Silverman discloses quantities of bids and offers at Fig. 5.

Concerning Claims 94-96, see the discussion of Claim 70. The Claim language is understood to convey that an order is sent when an certain parameter values are obtained. This is read as the familiar limit order.

Concerning Claim 97, see the discussion of Claims 90 and 2.

With respect to Claim 98, see the discussion of Claims 92 and 93.

Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Silverman* in view of *Schott* and further in view of *Sacerdoti et al*.

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As to Claim 28, Silverman teaches the invention substantially as claimed including an electronic trading system having orders and receipt of information for those orders, including a value axis, which information is displayed. See the discussion of Claim 1 for detailed reference. Silverman does not specifically disclose a quantity axis and display of icons with respect to the axis. Sacerdoti discloses this feature at Figs. 4, 5 and 8. It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the display of icons with respect to quantity axis because this would have provided additional information. A motivation to combine the teachings of the references is given by Sacerdoti et al at Col. 1, lines 20-64 as common subject matter of trading.

Also of note are the facts that *Sacerdoti et al* teach the features of icon size corresponding to quantity, bar graphs etc. (Col. 7, lines 36-45) and user adjustment of icon size to reflect quantity (Summary of the Invention). These features are recited in other claims rejected over other art.

Applicants' claims recite placement of an order in accordance with value and quantity, which is disclosed by *Silverman* at Col. 6, line 61 to Col. 7, line 13.

Claims 71-76 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Silverman* in view of *Schott* and further in view of US 6,161,099 *Harrington et al.*

As to Claims 71-73, Silverman discloses the invention substantially as claimed. See the discussion of Claim 1. Silverman does not disclose a derivative of price as an interest rate.

Harrington discloses interest rates as a derivative pricing mechanism for bonds at Col. 9, lines 40-55 and Fig. 15. It would have been obvious to one of ordinary skill in the art at the time of

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the invention to substitute the interest rate derivative of *Harrington* for the price disclosed by *Silverman* because this derivative would provide a valuation method for a bid which was more familiar in the bond auction art, i.e. true interest cost.

As to Claim 74, a breadth of metrics would be obvious to provide maximum flexibility to the user. The same reasoning applies to Claim 75, where variation of measures would provide the user flexibility. Spreadsheet programs provide exactly this flexibility wherein users can define multiple parameters for results calculated by a spreadsheet.

As to Claim 76, Official Notice is taken that it was old and well known to change parameters and update displayed information. For example, "Scenario" functions of spreadsheets allow users to select a new parameter (measure) and update the spreadsheet based on the new measures. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify *Silverman* to update displayed results because the use of multiple "measures" would give a user a deeper understanding of market activity.

Response to Arguments

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles R Kyle whose telephone number is (703) 305-4458. The examiner can normally be reached on M-F 6:00-2:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vincent A Millin can be reached on (703) 308-1065. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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).

Crk September 13, 2004 Examiner Charles Kyle

Clarks If G

Notice of References Cited Application/Control No. 09/289,550 Examiner Charles R Kyle Applicant(s)/Patent Under Reexamination FRIESEN ET AL. Art Unit Page 1 of 1

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*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).) Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

U.S. Patent and Trademark Office PTO-892 (Rev. 01-2001)

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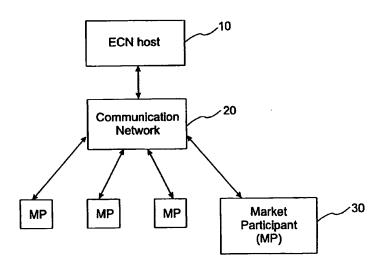
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(54) Title: A SYSTEM AND METHOD FOR DISPLAYING MARKET INFORMATION



(57) Abstract: The subject invention overcomes the limitations of known market data displays by producing a graphical market display that integrates analysis of both 1) intra-day trading activity by classes of a market participant (30), and 2) projected market impact as a function of trade size given the present set of executable orders in an electronic securities trade execution network (20). In a preferred embodiment, the display is used as the graphic user interface (GUI) of an ECN (10). In alternate preferred embodiments, the display is offered by a market data analysis service that accesses information from one or more ECNs, exchanges, or stock market. In another alternate embodiment, the display is created by software on a user computer from liquidity information already on that user computer.

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A SYSTEM AND METHOD FOR DISPLAYING MARKET INFORMATION

Field of the Invention

The subject invention relates to a method and system for displaying the status of one or more electronic securities trading markets, and more particularly to a method and system for displaying said status over a computer network such as the Internet.

Background of the Invention

There has recently been dramatic growth in the number and volume of securities

10 transactions executed over electronic communication networks (ECNs). On an ECN, market participants can access market information and communicate orders to a central order-execution mechanism. The explosive growth of retail and professional trading over the Internet has extended access to ECN liquidity to new and distinct classes of market participants beyond traditional market professionals and institutional investors. ECNs have also developed the ability to manage and execute many order types and to dynamically manage complex baskets of many orders in near real-time. These developments have made ECNs ubiquitous, fast, and flexible and have created a dynamic market environment with a rapidly changing book of executable orders.

In a typical ECN trading situation where a market participant has a buying or selling

20 interest, liquidity conditions can make it very difficult to determine the market impact of a
potential order. The critical questions are whether sufficient counter-interest exists in the
book of executable orders or quotes to complete the potential order, and if so, at what average
price that order would execute (referred to herein as the order's "market impact"). Existing
methods of generating and displaying liquidity information and market impact analysis fail to

25 adequately provide an answer to these questions. For example, a display of the inside quote
(the price and volume of the highest bid and lowest offer available in the book of executable
orders) only provides an answer if the potential trade is of a smaller size than the displayed
counter-interest.

There has been a dramatic increase in the number of market participants who instead
30 perform this analysis from a display of the full depth of quote in a securities market, because
ECNs freely disseminate such information and more market participants are paying for the

information from markets such as NASDAQ. A display of the full depth of quote, such as the typical display depicted in FIG. 3, may provide enough information to manually calculate market impact, but as a practical matter it is difficult, if not impossible, to manually perform such calculations in real-time. Use of the order array depicted in FIG. 3 to deduce market 5 impact requires a trader to process large quantities of rapidly changing raw numeric data while simultaneously making broader transaction decisions. This difficulty is compounded if the trader is analyzing several order arrays for various securities of interest. The process is further complicated by non-obvious non-linear execution rules relating to orders with minimum volume restrictions. Also, the equity market as a whole has experienced a 10 significant upward trend in both trading volume and volatility over the past five years, adding to the kinetic pace of change in instantaneous liquidity and therefore increasing the need for rapid market impact analysis. Furthermore, if decimal equity pricing is adopted in the United States (as planned), the order array depicted in FIG. 3 will become even more disperse and difficult to analyze.

A known approach to analyzing market impact is disclosed in U.S. Pat. 5,924,083, to Silverman, et al., which discloses a trading system that attempts to hypothetically fill a potential order using the executable order book, and displays to the user the weighted average price at which the potential order would be executed. This provides numerical display of average prices and requires iterative user input to generate estimated execution prices for multiple potential trade sizes; in an alternate embodiment, the system provides numerical display of average price for a handful of system-defined standard sizes. In either embodiment, the system disclosed in Silverman et al. fails to provide the average price as a piecewise-continuous function of trade size—at most it gives a sample of numerical values, without any graphical display or integration with other market information.

Another important factor in trade decision-making is intra-day market activity.

Traders constantly monitor sources of market activity data to locate opportunities presented by changes in demand and liquidity patterns, short term imbalances of supply and demand, or other developments that can be identified by keeping abreast of market activity. Existing sources of this information typically express total volume traded or price action (whether last trade or best bid and offer) as a function of time, or both together. These systems are well known in the art and can be found, e.g., at Bloomberg.com or Finance. Yahoo.com. Existing

market information systems simply access trade history and do not identify or classify the executing brokers on either side of the transaction. The typical combined price volume display described above fails to separate the trading activity of different classes of market participants, which often react very differently both temporally and substantively to market price action and information dissemination. The ability to separately view trading activity by market participant class produces a much clearer picture of market dynamics, and analysis of the reaction patterns of such market participant classes can have crucial predictive value.

Summary of the Invention

The subject invention overcomes the limitations of known market data displays by producing a graphical market display that integrates analysis of both 1) intra-day trading activity by classes of market participant, and 2) projected market impact as a function of trade size given the present set of executable orders in an electronic securities trade execution network. In a preferred embodiment, the display is used as the graphic user interface (GUI) of an ECN. In alternate preferred embodiments, the display is offered by a market data analysis service that accesses information from one or more ECNs, exchanges, or stock market. In another alternate embodiment, the display is created by software on a user computer from liquidity information already on that user computer.

In order to generate the projected market impact analysis, a preferred embodiment

20 accesses and performs real-time calculations on the book of executable orders contained in
the ECN. The display simultaneously expresses the price at which the user can expect to
either buy or sell a given number of shares at that particular moment. To generate the two
curves of the market impact analysis display, the preferred embodiment fills a hypothetical
order with the executable order book, and calculates the weighted average price at which the

25 order would be executed. This hypothetical execution and calculation is repeated to generate
two curves that assimilate in real-time all available data regarding liquidity and distill that
data into a novel graphical representation of expected market impact. An alternate
embodiment also includes a marginal execution price function for both the bid and offer
curves. Another alternate embodiment incorporates user trading costs into the calculation of
30 the market impact analysis display.

In order to generate the intra-day trading analysis, the system of a preferred embodiment accesses historical trade and market data including time, price, and quantity for each trade, and best bid and best offer as a function of time. One preferred embodiment generates a display similar to that depicted in FIG. 4. Another preferred embodiment

5 performs further analysis, separating the trade volume data into market participant classes that are defined by the system as shown in FIG. 5 (by the user, in an alternate embodiment). The system separates the trade data using an Indicative Formula (IF) for each market participant class and plots the time-bucketed value of each IF as a function of time. This additional analysis is based on data from the data source (ECN, exchange, or other stock market)

10 identifying the class of the executing broker for each trade. An alternate embodiment also calculates and displays information regarding the price of trading activity relative to the best executable order prices. Another preferred embodiment also displays information regarding the range of market maker bids and the range of market maker offers. Another preferred embodiment also calculates and displays information regarding the estimated change in market maker inventory.

The preferred embodiment integrates these separate analyses into a single display that the system configures with respect to scale, format, and content. In the preferred embodiment of the invention, the intra-day market activity analysis display is on the left side of the main display, and the market impact display is on the right side of the main display. In this embodiment, the system generates an appropriate scale for the shared vertical price axis as well as the horizontal time axis for the market activity analysis and the horizontal trade size axis for the market impact analysis. In order to maintain a meaningful and condensed representation of market information, the display can be re-scaled as market activity dictates.

Brief Description of Drawings

FIG. 1 is a schematic diagram depicting a preferred embodiment of the system of the subject invention.

FIG. 2 is a schematic diagram depicting an alternate preferred system embodiment of the subject invention.

FIG. 3 is a depiction of a traditional order book display.

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FIG. 4 is a depiction of a basic main display of a preferred embodiment.

FIG. 5 is a depiction of a main display of a preferred embodiment that comprises an enhanced display of intra-day market activity information.

- FIG. 6 is a depiction of a main display of a preferred embodiment that comprises an enhanced display that expresses trade size in dollar value or portfolio proportion.
- 5 FIG. 7 is a flowchart showing steps of a preferred method of producing a market activity analysis display.
 - FIG. 8 is a flowchart showing steps of a preferred method of producing a market impact analysis display.
- FIG. 9 is a flowchart showing steps of a method employed by an alternate embodiment for determining the horizontal scale of the market activity analysis display.
 - FIG. 10 is a flowchart showing steps of a method employed by a further alternate embodiment for determining the horizontal scale of the market activity analysis display.
- FIG. 11 is a flowchart showing steps of a method of a preferred embodiment for determining the scale for the vertical price axis common to both the market activity analysis 15 display and the market impact analysis display.
 - FIG. 12 is a depiction of a main display of a preferred embodiment that additionally comprises relative price information in the market activity analysis.
 - FIG. 13 is a flowchart showing steps of the method employed by an alternate embodiment for generating the relative price information in the market activity analysis.
- 20 FIG. 14 is a depiction of a main display of a preferred embodiment that additionally comprises displays of market maker price range and estimated change in dealer inventory in the trading activity analysis.

Detailed Description of Preferred Embodiments

25 FIG. 1 and FIG. 2 illustrate two system configurations corresponding to preferred embodiments of the subject invention. Each configuration comprises a graphic user interface (GUI) integrated with an ECN and further comprises a network host (ECN host) 10, a communications network 20, and a plurality of market participants 30. Market participants 30 (also referred to herein as "users") access information regarding trading activity and the array of executable orders on the ECN host 10. Users transmit, modify, and cancel executable orders through the communication network 20. In the first preferred embodiment

(shown in FIG. 1), the communication network 20 is the Internet but, as is known in the art, alternate embodiments can employ dedicated communication networks. The preferred embodiment permits market participants 30 to view information regarding trading activity and executable orders either in their traditional form as depicted in FIG. 3 or through the 5 integrated graphical market analysis display of the subject invention. In the preferred embodiment, this display is created by the host 10 and transmitted to the market participant 30. In an alternate embodiment, the host 10 transmits either raw or processed data through the communication network 20 to be processed and assimilated into the display of the subject invention by local software at the market participant level 30 as is known in the art. In a 10 further alternate embodiment, the display is created at the host site and then shown on a remotely located website (preferably operated by a third-party vendor) that is accessed by customers. Further combinations of the above elements will be clear to those skilled in the art. For example, display software could be located at a remote website that receives data from the host 10. Also, the display could be created by software on a user computer from 15 liquidity information already on that user computer, either from the host or from a third party vendor.

In a second preferred embodiment, depicted in FIG. 2, the system is external to the ECN whose data the system analyzes and displays. The host 210 communicates with various ECNs 220 through each of their respective communication networks 230. In the preferred embodiment described in FIG. 2, the communication networks 230 are the Internet, but alternate preferred embodiments employ dedicated communication networks, as is known in the art. A host 210 accesses information regarding trading activity and executable orders generated by each ECN's market participants 240. The host 210 then processes the data and generates an integrated graphical market analysis display to be provided to subscribers 260 through a communication network 250. As in the system described in FIG. 1, this network 250 is the Internet, but alternate embodiments employ a dedicated communication network. As is shown in FIG. 2 many of the ECN market participants 240 may also be subscribers 260 to the subject system. In the preferred embodiment, the display of the subject invention is created by the host 210 and transmitted to the subscriber 260. In an alternate embodiment, the host 210 transmits either raw or processed data through the communication network 250 to be processed and assimilated into the display of the subject invention by local software at

the subscribe level 260 as is well known in the art. Further embodiments will be apparent from the examples given above regarding FIG. 1.

The embodiments of the subject invention described in FIG. 1 and FIG. 2 are not intended to be exhaustive. Further embodiments of the subject invention will be apparent to to those skilled in the art. For example, in an alternate preferred embodiment the subscribers 260 have the ability to select the sources of data to be included in the display: a subscriber with access only to ECN1 and ECN3 may wish to limit the display of trading activity and/or of market impact to information from these two sources. Another preferred embodiment of the subject invention not only provides news and analysis including the integrated display of the subject invention, but also enables subscribers 260 to execute orders by routing their orders among the various affiliated ECNs 220 through their respective communication networks 230. In another embodiment, the system and method is applied to trading activity and executable orders on an exchange 270 or other stock market by accessing the trade history and exchange order book via the same communication network 280 that connects the exchange 270 to market participants 290 who electronically route orders to the exchange order book. Once again, these market participants 290 may also be subscribers 260 to the system.

FIG. 4 depicts a preferred embodiment of the subject invention, comprising a market activity analysis display 432 on the left side of the main display, a market impact analysis 20 display 433 on the right, and an alphanumeric market information summary display 405 at the lower left of the main display. In alternate preferred embodiments, the summary display 405 can be configured by the user or by the system, so as to include selected alphanumeric market data. In the preferred embodiment depicted in FIG. 4, commercial information tiles 440 are used as a branding device for the underlying ECN source (in FIG. 4, NASDAQ) and as an 25 advertisement for the corporation whose securities are being analyzed (in FIG. 4, SBA). Alternate embodiments use the commercial branding tiles 440 as advertisement for another external entity.

In the embodiment depicted in FIG. 4, the market activity information comprises a continuous graph 408 of best offer and a continuous graph 409 of best bid, as well as discrete indications 410 of trade prices, each expressed as a function of time and identified in the display legend 412. The market activity analysis display 432 is similar to the typical form

generated from the consolidated tape that are well known in the art. In an alternate preferred embodiment, the user can also view the last trade price as a flashing red dot on the dividing line between the market impact analysis display 433 and the market activity analysis display 432.

. 5 In order to generate the projected market impact analysis display 433 depicted on the right side of FIG. 4, the preferred embodiment accesses and performs real-time calculations on data regarding all executable trading interests. While the generation of this market impact analysis display 433 is described below in the context of a book of executable orders contained in an ECN, it is obvious to one skilled in the art that the analysis can also be 10 applied to executable market maker quotes. The display shows to a user the price at which the user could expect to transact if the user's market order were executed at that particular moment. As shown in FIG. 4, the preferred embodiment simultaneously displays this price as a curve 415 that is a function of trade size for user bids trading with the book of executable offers and a curve 420 that is a function of trade size for user offers trading with the book of 15 executable bids. To generate the two piece-wise continuous (continuous except for a finite number of discontinuities) curves, the system and method of a preferred embodiment fills a hypothetical order using booked executable orders, and calculates the weighted average price at which the order would be executed. This hypothetical execution and calculation is repeated for many different trade sizes to generate the two curves 415 and 420 that instantly 20 assimilate all available execution data and distill it into a novel graphical representation of expected market impact.

The curves represent the maximum average price a buyer should expect to pay or the minimum average price a seller should expect to receive for their order as a function of trade size. If the only executable orders in the market are the public orders from which the market 25 impact curves are calculated and those orders do not change before the user's order is transmitted and executed, then the output of the invention will be the precise average execution price for an order of that size. Any non-public orders (orders for which none or only a portion of the volume is publicly displayed) in the ECN order book that are executed in the process of filling the order must have the same or a better price relative to the public orders from which the invention calculated the projected market impact. Therefore, the average price of the user's actual execution can only be the same or better relative to the

market impact curve produced by the invention if the executable order book remains constant. These market impact curves do not guarantee any specific fill to the user of the invention, however, as the order book contents are changing constantly; booked orders can trade or can be added, canceled, or modified before the user's order is entered, transmitted, and executed.

FIG. 8 is a flow diagram showing the operation of software of a preferred embodiment to generate the market impact curves. At step 805, a system host 10 accesses a book of public executable orders in the ECN, and at step 810, the software creates a volume counter x which it initializes to zero. At step 815, data representing the book of public executable orders is placed into two arrays of decreasing execution priority, one for bids and one for offers. Each element i of the arrays represents an order and includes the price, volume, and minimum quantity (P_i, V_i, M_i) for that order. The execution priority for the offer and bid arrays is set according to the execution rules of their source (ECN, exchange, or other stock market). This priority is set primarily according to price; priority among orders at the same limit price typically starts with order entry time and is modified by various rules regarding order size and type (e.g., market orders, minimum quantities). Once again, while this describes the creation of offer and bid arrays from a book of executable orders contained in an ECN, it is obvious to one skilled in the art that the analysis can be extended to executable market maker quotes.

The software then performs an outer loop that calculates the market impact price from the offer and bid arrays for an order of volume x and continues to increment the volume 20 counter x as depicted in step 820 up to the total volume contained in the bid and offer arrays. In step 825 the software of the preferred embodiment then determines the following values from the offer array (P_i, V_i, M_i) :

$$N = N(x)$$
 is chosen so that $x \in (\sum_{i=1}^{N-1} V_i, \sum_{i=1}^{N} V_i)$,

25
$$A = \sum_{i=1}^{N-1} V_i, \text{ and }$$

 $M_N = minimum quantity of offer N.$

30 In step 830 the software determines whether $x < A + M_N$. If so, then a bid of volume x-can not use offer N because the remaining volume after executing all previous orders is

insufficient to meet the minimum quantity of offer N. Offer N is therefore removed from the array in step 835, and the software determines in step 840 whether it was the last order in the offer array. If it was not, then the software repeats the loop starting with step 825 to determine whether volume x can be executed with the new offer array. If offer N was the last order in the offer array, then it is not possible to execute a market order to buy x shares given the offer array, and in step 845 the market impact f(x) is determined not to exist. If in step 830 the software determined that $x \ge A + M_N$, then in step 850 the software calculates the market impact f(x) for a market order to buy x shares from the offer array (P_i, V_i, M_i) in the following manner:

10
$$f(x) = \frac{\sum_{i=1}^{N-1} P_i V_i + P_N (x - \sum_{i=1}^{N-1} V_i)}{x}.$$

For example, if 10,000 shares are offered for sale at \$100/share, 10,000 shares are offered at $100\frac{1}{2}$ per share, and 20,000 are offered at $100\frac{1}{2}$ per share, then the offer array (P_i, V_i, M_i) will be:

$$i \qquad (P_i ; V_i ; M_i)$$

$$1 \qquad (100 ; 10,000; 0)$$

$$2 \qquad (100\%; 20,000; 0)$$

$$20 \qquad 3 \qquad (100\%; 10,000; 0)$$

Thus, if x = 34,000 shares, then N = 3 and

25

$$f(x) = [100(10,000) + 100\%(20,000) + 100\%(4,000)] / 34,000$$

$$= (1,000,000 + 2,002,500 + 401,000) / 34,000$$

$$= 3,403,500 / 34,000$$

$$\approx 100.1029$$

As explained above, this figure represents the maximum average price per share that a prospective buyer will expect to pay for a market order to purchase 34,000 shares given this 30 offer array.

It is important to note from the conditional determinations described above that a minimum quantity order can create significant discontinuities in the average execution price as a function of trade size. The integrated visual display of these discontinuities yields an accurate instantaneous assessment of market impact in situations in which a mental numerical analysis from an order array such as that depicted in FIG. 3 would be extremely difficult, if not impossible.

In the preferred embodiment, once the market impact on the offer array of a buy order of volume x has been determined, the software performs the same analysis on the bid array for a sell order of volume x. In step 855, the software determines N(x), A, and M_N from the 10 bid array (P_i, V_i, M_i) as described above. In step 860 the software determines whether x < A+ M_N . If so, bid N is therefore removed from the array in step 865, and the software determines in step 870 whether it was the last order in the bid array. If it was not, then the software repeats the loop starting with step 855 to determine whether volume x can be executed with the new bid array. If it was, then it is not possible to execute a market order to 15 sell x shares given the bid array, and in step 875 the market impact f(x) is determined not to exist. If in step 860 the software determined that $x \ge A + M_N$, then in step 880 the software calculates the market impact f(x) for a market order to sell x shares to the bid array in the manner described above. In step 885, the software of the preferred embodiment determines whether the volume counter x has reached the total volume of the order book. If it has not, 20 the outer loop is performed again starting at step 815, where the offer and bid arrays are reconstructed, replacing any order which had been removed; if it has, the market impact display is plotted in step 890.

In an alternate preferred embodiment, the prices in the offer and bid arrays are adjusted to account for the users's direct trading costs in the calculation of market impact.

25 The offer array (P_i, V_i, M_i) will become $(P_i + C(x), V_i, M_i)$ and the bid array (P_i, V_i, M_i) will become $(P_i - C(x), V_i, M_i)$, where C(x) represents the per share cost to the user to execute a trade of volume x. This direct trading cost could be a broker commission for a retail user, or a per-share matching cost in a facility such as Optimark. The user can also choose to input a flat fee per trade, in which case the software of this preferred embodiment converts the flat fee into a cost per share by dividing by the total trade size x, making $C(x) = \frac{Flat Fee}{x} + Costs per share.$

In another alternate preferred embodiment, the system analyzes all legal combinations of executable orders to determine the set of orders which generates the most favorable average execution price. This optimization can be significant if the market impact analysis is being performed on fragmented pools of liquidity (e.g. multiple ECNs) where a market participant can choose to execute different portions of an order in different pools of liquidity. It can also be significant in a single pool of liquidity in which the execution priority rules do not preclude an order with a less aggressive price from being executed before an order with a more aggressive price (i.e. a market such as the NASDAQ dealer market which permits such "trade-throughs"). The optimized order set can be determined by exhaustive search or by more efficient algorithms as are known in the art. The resultant optimized set will exclude certain orders with minimum quantities which, if executed in their execution priority, would increase the average execution price of a buy order at volume x. For example, if 10,000 shares are offered at \$100 per share with a minimum quantity of 100,000; 100,000 shares are offered at \$100 per share with a minimum quantity, the offer array will be:

	i.	$(P_i ; V_i ; M_i)$	
	1	(100 ; 10,000 ;	10,000)
20	2	(100; 100,000;	100,000)
	3	(100%; 100,000;	0)

Given this offer array and execution priority, the average execution price for an order to buy 105,000 shares is lower if offer number 1 is not executed; order number 1 will therefore be 25 excluded from the optimized offer set array.

The integration of the trading activity analysis display and the market impact analysis display into a meaningful single main display requires a method for choosing appropriate and consistent scales for the curves of the two displays.

Referring again to FIG. 4, in a preferred embodiment the scale of the trade size axis
30 430 is chosen such that the maximum displayed size is greater than the larger of the total
volume in the bid and offer arrays. Other preferred embodiments give the option of

employing other scaling methods to maintain a meaningful display in various market conditions or to satisfy specific user needs. For example, another embodiment sets the scale 430 to isolate a user- or system-defined range, which is useful when the user is only interested in a specific range of trade sizes. Another embodiment sets the scale 430 such that the 5 maximum displayed size is greater than the larger of the total volume of only those orders in the bid and offer arrays that fall within a certain price range (i.e., excluding orders that are outside a user- or system-defined reasonable price range). Another embodiment sets the scale 430 such that the maximum displayed size is greater than the smaller of the total volumes contained in the bid and offer arrays (to maintain a meaningful display if there is a substantial imbalance between total executable public buying and selling interest). A further alternate embodiment enables a user to chose between all of these and/or other scaling options.

In the display of a preferred embodiment shown in FIG. 4, the horizontal time axis
435 in the market activity analysis display is set to include in the allotted space the entire
trading day up to the last price update. This scale is reset whenever new price information
15 arrives, which may be either in real-time or after a system-defined delay. It will be clear to
those skilled in the art that alternate embodiments of the subject invention could employ other
methods to set the horizontal time axis 435.

FIG. 9 is a flow diagram showing the operation of software used in such an alternate preferred embodiment to set the scale of the horizontal time axis 435 to include in the allotted 20 space the amount of time Y expected to execute the volume in the bid or offer arrays based on recent trading history. In step 910, the system accesses data regarding historical daily volume totals and in step 920 accesses data regarding the current arrays of executable bids and offers. In step 930, software of the preferred embodiment determines the total volume V(k) traded in the security in the last k days and the number of minutes m in a trading day. In step 940, the 25 recent average trading volume by minute x is calculated as

 $x = \frac{V(k)}{k m}$. In step 950, the total volumes of the bid and offer arrays are calculated as

 $\sum_{i=1}^{N} V_{B_i}$ and $\sum_{i=1}^{N} V_{O_i}$, respectively. In step 955, the software determines the larger total volume between the bid and offer array as C = max ($\sum_{i=1}^{N} V_{O_i}$, $\sum_{i=1}^{N} V_{B_i}$). In step 960, the 30 expected number of minutes Y it will take to execute the bid or offer array is calculated as

 $Y = \frac{C}{x}$. In step 970, the software sets the horizontal time axis 435 in the market activity analysis display to include in the allotted space the last Y minutes of trading activity.

FIG. 10 is a flow diagram showing the operation of software used in an alternate preferred embodiment to set the scale of the horizontal time axis 435 to include in the allotted space the amount of time Z to execute the volume in the bid or offer arrays based on the most recent set of trades in the same trading session. In step 1005, the system accesses historical daily volume data and in step 1010 the system accesses the arrays of executable bids and offers. In step 1015, software of this preferred embodiment creates an array of all trades in the current session that starts with the most recent trade and includes the trade's volume and age in minutes (V_i, A_i) . In step 1020, the software determines the total volume traded in the security in the last k days V(k) and the number of minutes in a trading day m. In step 1025, the recent average trading volume by minute x is calculated as $x = \frac{V(k)}{k}$. In step 1030, the total volume traded in the present session is calculated from the session trade history array as

15 $\sum_{i=1}^{N} V_i$, and in step 1035, the total volumes of the bid and offer arrays are calculated as

20

 $\sum_{i=1}^{N} V_{B_i}$ and $\sum_{i=1}^{N} V_{O_i}$, respectively. In step 1040, the software determines the larger total

volume between the bid and offer array as $C = max \left(\sum_{i=1}^{N} V_{O_i}, \sum_{i=1}^{N} V_{B_i} \right)$. In step 1050, C is

compared to the total volume traded in the present session; if C is greater than or equal to the total volume for the day, the horizontal time axis 435 is scaled in step 1060 to include in the allotted space the entire trading day up to the last price update. If not, in step 1070 the software calculates the expected number of minutes Z it will take to execute the volume in the 25 bid or offer arrays based on the most recent trades as:

$$Z = A_{N-1} + \frac{C - \sum_{i=1}^{N-1} V_i}{x}, \text{ where } N = N(C) \text{ is chosen so that } C \in (\sum_{j=1}^{N-1} V_j, \sum_{j=1}^{N} V_j).$$

In step 1080, the software sets the horizontal time axis 435 in the market activity analysis 30 display to include in the allotted space the last Z minutes of trading activity.

The vertical price scale 425 is common to both displays and, in the preferred embodiment depicted in FIG. 4, it is set at round increments around the minimum and maximum price data points of the two graphs. FIG. 11 is a flow diagram showing the operation of software used in the preferred embodiment to set the vertical price scale 425 in 5 this manner. In step 1110, software of a preferred embodiment determines the maximum and minimum prices of data points in the market activity analysis display for the time period that is to be displayed, and in step 1120, the software determines the maximum and minimum prices of data points in the market impact analysis display for the range of trade sizes that is to be displayed. In step 1130, the total minimum price is set at the lower of the minimum 10 market impact price and the minimum market activity price. In step 1140, the total maximum price is set at the higher of the maximum market impact price and the maximum market activity price, and in step 1150, the total range is set at the difference between the total maximum and the total minimum. This scale is reset if market activity takes either display out of the previous range. To provide a consistent visual reference, the graph is not re-scaled 15 continuously, so in the preferred embodiment the vertical price scale 425 is set with a cushion of a multiple of the data price range as shown in FIG. 4. In step 1160, the vertical scale is set to display a range from total minimum - k (total range) up to total maximum + k (total range).

FIG. 5 depicts an alternate preferred embodiment of the subject invention which includes enhanced displays of both market activity and market impact analysis. The market 20 impact analysis display comprises the expected execution offer curve 515 and bid curve 520 which are identical to curves 415 and 420 in FIG. 4, and also includes a marginal execution price display for the bid 510 and offer 505 interests. This marginal execution price as a function of trade size represents the price at which an incremental share would be executed on a market order of that trade size. The flow diagram in FIG. 8 that describes the software operations to produce the expected average execution curves also applies to the production of the marginal execution price curves. At step 805, the system host accesses the book of executable orders and in step 810, the software creates a volume counter x and sets it to zero. In step 815, the orders are placed in arrays of price, volume, and minimum size (P_i, V_i, M_i) by execution priority, and in step 820 the volume is incremented. In step 825 the software then determines N(x), A, and M_N from the offer array as follows:

$$N = N(x)$$
 is chosen so that $x \in (\sum_{i=1}^{N-1} V_i, \sum_{i=1}^{N} V_i)$,

$$A = \sum_{i=1}^{N-1} V_i, \text{ and }$$

5 $M_N = minimum quantity of offer N.$

In step 830 the software determines whether $x < A + M_N$. If so, then offer N is removed from the array in step 835, and the software determines in step 840 whether it was the last order in the offer array. If it was not the last order, then the software repeats the loop starting with step 825. If offer N was the last order in the offer array, then in step 845 the marginal execution price h(x) for a market order to buy x shares is determined not to exist. If in step 830 the software determined that $x \ge A + M_N$, then in step 850 the software calculates the marginal execution price h(x) for a market order to buy x shares as $h(x) = P_N$.

The software then performs the same marginal execution price analysis on the bid
15 array for a sell order of volume x. In step 855, the software determines N(x), A, and M_N from the bid array as described above. In step 860 the software determines whether x < A + M_N. If so, bid N is removed from the array in step 865, and the software determines in step 870 whether it was the last order in the bid array. If it was not, then the software repeats the loop starting with step 855. If bid N was the last order in the array, in step 875 marginal execution
20 price h(x) for a market order to buy x shares is determined not to exist. If in step 860 the software determined that x ≥ A + M_N, then in step 880 the software calculates the marginal execution price function h(x) for a market order to sell x shares to the bid array in the manner described above. In step 885, the software determines whether the volume counter x has reached the total volume of the order book. If it has not, the outer loop is performed again
25 starting at step 815, where the offer and bid arrays are reconstructed, replacing any order which had been removed; if it has, the marginal execution price display is plotted in step 890.

The alternate preferred embodiment shown in FIG. 5 also includes enhanced market activity analysis. As can be seen in FIG. 5, there are graphs (530, 540, 550) of trading activity for different classes of market participant; these graphs share the horizontal time axis with the price information above, but have separate vertical volume axes 557 for each different class. The different market participant classes are identified in the display legend

525, and each trading activity graph (530, 540, 550) includes an average volume indicator
555 to provide a reference point in visually analyzing the variance of trading activity over
time. FIG. 7 is a flow diagram showing the operation of software used in the preferred
embodiment to generate the market activity analysis depicted in FIG. 5. At step 705, the
5 system host accesses the trading and quote history for the day, including the time, price,
volume, and pre-defined class of executing broker of all trades as well as the best bid and best
offer posted at every time during the trading day. In step 710, the host generates the price
action graph depicted in FIG. 4; as discussed above, methods of generation of a graph from
the consolidated tape are known in the art. In step 715, the system creates an array which
separates the trading day into small time buckets; for each time bucket i there will be a
volume for each market participant class (MPC₁, MPC₂, MPC₃). In step 720, the system
looks for the next trade and in step 725 checks whether a valid trade has been found.

If a valid trade is found, the trade data are separated using an Indicative Formula (IF) for each market participant class. For example, a system-configurable IF to identify

15 institutional trades might include only block trades greater than a given volume, such as 10,000 shares. An IF to identify retail trades might include only trades by certain brokers such as Charles Schwab whose main order flow is from retail clients, or it may include only trades below a certain volume, such as 1,000 shares. In step 730, the trade is tested against the IF for the first MPC, and if the trade satisfies the criteria, the trade is added in step 735 to the volume total for that MPC in the appropriate time bucket, and the software returns to step 720 to look for another trade. Similarly, in step 740 the trade is tested against the IF for the second MPC, and if the trade satisfies the criteria, the trade is added in step 750 to the appropriate MPC and time bucket of the array, and the software returns to step 720 to look for another trade. Likewise, steps 760 and 770 do the same for the third MPC. Eventually the end of the available trades is reached and the valid trade test in step 725 is failed. In step 780, the software then plots the display from the arrays using the appropriate scaling algorithm.

FIG. 6 depicts an alternate preferred embodiment of the subject invention which is applicable not only to individual stocks but also to a portfolio of stocks or to an index. In this embodiment the user is permitted to choose whether to denominate the horizontal trade size axis 610 of the market impact analysis 620 in volume, notional value, or proportion of portfolio. Denomination of the horizontal trade size axis 610 in volume results in a market

impact analysis similar to that illustrated in FIG. 4, where the trade size axis 430 increments represent number of shares traded and the vertical price scale 425 is denominated in share price.

In the preferred embodiment depicted in FIG. 6, the user can also choose to 5 denominate the horizontal trade size axis 610 in notional value. If the preferred embodiment is used to analyze an index, the software will determine the basket of stocks which replicates the index at the specified notional value, as is well known in the art. For example, the Dow Jones Industrial Average is calculated from the last sale price of 30 stocks and the Standard & Poor's 500 is calculated from 500 stocks. Constructing a basket of stocks which replicates 10 these indices from their respective component weightings is well known in the art. The market activity analysis 630 calculates the trading activity breakdown by market participant class 640 for each component of the index, then aggregates the component volumes to an index trading activity breakdown, using the component weightings as is well known in the art. If the preferred embodiment is used to analyze an index, the offer 650 and bid 660 15 market impact curves represent the index level in dollars at which the user should expect to execute an order in the index, as a function of the notional value executed. To calculate the index level for a given notional trade size, the notional amounts of each component security is determined from the total trade notional value and the component weighting in the index. The component security notional amounts are then converted into component security 20 volumes using the last trade prices for each security, the expected market impact prices for those volumes are calculated as shown in FIG. 8, and these prices are aggregated back to an index price using the index weightings. Display of the market impact analysis using notional value denomination of the horizontal trade size axis 610 is extremely useful in certain trading situations. For example, index tracking fund managers will frequently be forced to decide 25 when to execute a certain notional value of portfolio adjustment. This adjustment will entail sending orders in all the individual index component securities, however, so without the novel price impact aggregation described above, expected execution price would be difficult to determine.

In the preferred embodiment depicted in FIG. 6, the user can also choose to

denominate the horizontal trade size axis 610 in proportion of a portfolio. This requires the
user to first input their present holdings in the various securities comprising their portfolio,

after which the system will scale the horizontal axis 610 to fit the range of 1-100% in the allotted space. If the preferred embodiment is being used to analyze an index, the vertical axis 670 will be denominated in execution price as shown in FIG. 6. To calculate the market impact curves 650, 660 for a given portfolio percentage, the component security volumes are determined from the total holdings and the portfolio percentage. The individual expected market impact prices for those volumes are calculated as shown in FIG. 8, and these prices are aggregated back to an index price using the index weightings.

In the preferred embodiment depicted in FIG. 6, the invention can also be used to analyze a user-defined basket of securities. The vertical axis 670 is then denominated in the notional value of the portfolio, and the market impact curves 650, 660 represent the expected portfolio market value which would result from an order to buy or sell a percentage of the portfolio, as a function of the percentage executed. To calculate the market impact curves 650, 660 for a given portfolio percentage, the component security volumes are determined from the total holdings and the portfolio percentage. The individual expected market impact prices for those volumes are calculated as shown in FIG. 8, and these prices are aggregated back to an expected portfolio market value using the original portfolio holdings. Display of the market impact analysis using portfolio percentage denomination of the horizontal trade size axis 610 can be extremely useful in certain trading situations. For example, a market impact analysis denominated in this way is ideal for institutional program trading desks attempting to liquidate large portfolios purchased from their clients.

The user input/output to determine choice of axis denomination and present holdings is accomplished using standard interface means as is well known in the art.

FIG. 12 depicts an alternate preferred embodiment of the subject invention which includes a novel display of trade activity in each time bucket. The market activity analysis
1210 comprises an average best offer curve 1220, an average best bid curve 1230, a time bucketed total volume display 1240, discrete indications 1250 of the average relative trade price, and a vertical bar 1260 expressing the range of relative prices in the time bucket. FIG.
13 is a flow diagram showing the operation of software used in a preferred embodiment to generate the market activity analysis depicted in FIG. 12. In step 1310, the preferred
30 embodiment accesses historical market data including best bid and offer, trade time, price P, volume V, and the most recent available bid B and ask A preceding each trade. The preferred

embodiment separates all historical trades into time buckets, and in step 1315 the time bucketed total volume display 1240 is generated from this data as is well known in the art.

The software of the preferred embodiment then performs a loop of operations on each time bucket, starting with the first. In step 1320 the preferred embodiment calculates the 5 relative price x_i of each trade in the time bucket from the trade price P_i , and the bid B_i and the offer A_i immediately preceding that trade as:

$$x_i = \frac{(P_i - B_i)}{(A_i - B_i)} .$$

10 In step 1325, the preferred embodiment then calculates the average relative price $\langle x \rangle$ over that time bucket, weighted by trade volume, as:

$$\langle x \rangle = \frac{\sum_{i=1}^{N} x_i V_i}{\sum_{i=1}^{N} V_i}.$$

In step 1330, the preferred embodiment determines if there are any trades in the time bucket. If so, in step 1335 the volume weighted average best bid < B > and volume weighted average best offer < A > are calculated for the N trades in the time bucket.

20
$$= \frac{\sum_{i=1}^{N} A_{i} V_{i}}{\sum_{i=1}^{N} V_{i}}, = \frac{\sum_{i=1}^{N} B_{i} V_{i}}{\sum_{i=1}^{N} V_{i}}.$$

If there are no trades in the time bucket, in step 1340 < B > and < A > are calculated as the average of the best available bid b(t) and offer a(t) among N time samples in that time bucket.

25
$$= \frac{\sum_{i=1}^{N} a\(t_i\)}{N}, = \frac{\sum_{i=1}^{N} b\(t_i\)}{N}.$$

In step 1350, the average trade price AVG for the time bucket is calculated by scaling the average relative price to the spread between the average bid and average ask.

30

$$AVG = < B > + < x > (< A > - < B >)$$

In step 1360, the largest MAX and smallest MIN value of x in the time bucket is scaled to the spread between the average bid and average ask.

5
$$MAX = \langle B \rangle + (\langle A \rangle - \langle B \rangle) \sup(x)$$
, and $MIN = \langle B \rangle + (\langle A \rangle - \langle B \rangle) \inf(x)$.

in that time bucket.

In step 1365, the software of the preferred embodiment determines whether the last time bucket has been reached. If the last time bucket has not been reached, the software advances one time bucket in step 1370 and begins the operation loop in step 1320. If the last time 10 bucket has been reached, then the software advances to step 1380, where the average bid curve 1230 and the average offer curve 1220 are constructed by plotting $\langle B \rangle$ and $\langle A \rangle$ over time. In step 1390, the preferred embodiment represents the relative trade values in the form of a vertical bar 1260 extending from MIN to MAX and a diamond shape 1250 at AVG overlapping this vertical bar. The placement of the AVG diamond 1250 gives the user an 15 instant graphical understanding of the extent to which trades have tended to cluster near the bid ($\langle x \rangle \sim 0$) or near the ask ($\langle x \rangle \sim 1$). For a time bucket in which there was only one trade, the values MIN, MAX, and AVG are all equal (i.e., the vertical bar 1260 does not exist and only the diamond shape 1250 is displayed). For a time bucket in which there were no trades, there is no vertical range bar 1260 or discrete average indication 1250. If none of the trades 20 in a certain time bucket occur at the bid or offer, the vertical bar 1260 will not extend all the way to the average best bid curve 1230 or the average best offer curve 1220. The resultant gap will therefore communicate in graphic clarity to the user of the preferred embodiment valuable market intelligence regarding the participation of market makers in trading activity

FIG. 14 depicts an alternate preferred embodiment of the subject invention which includes a different novel display of trade activity. The offer range 1410 represents the range from the minimum to maximum market maker offers at a given time, and is shaded red to illustrate the expressed executable selling interest. Likewise, the bid range 1420 represents the range from the minimum to maximum market maker bids at a given time, and is shaded blue to illustrate the expressed executable buying interest. This representation can be very

useful to retail or other users who wish to judge how their execution price compares to the other quotes that were available when the trade was executed.

The preferred embodiment depicted in FIG. 14 also includes a graph of the evolution of the estimated combined inventories of the registered market makers in the security. This 5 estimated change in inventory graph 1430 represents an estimate of the total net volume traded by market makers in the present trading session as a function of time. The net volume traded by market makers is equal to the total volume bought minus the total volume sold. The total volume bought by market makers in this session is estimated by calculating the total volume of trades executed at the same price as the best dealer bid at the time of the trade.

10 The total volume sold by market makers in this session is estimated by calculating the total

volume of trades executed at the same price as the best dealer offer at the time of the trade.

The difference is plotted in the estimated change in inventory graph 1430. This feature clearly displays trends and patterns in the tendency of trades to take place on the bid or the offer. The display can also provide valuable insight into the trading behavior of market makers if, for example, the estimated change in inventory graph 1430 is dramatically negative and market makers have been forced to significantly deplete their inventory of the security.

While the embodiments shown and described are fully capable of achieving the objects of the invention, it is to be understood that these embodiments are shown only for the purpose of illustration and not for the purpose of limitation.

Claims

What is claimed is:

 A method of displaying data regarding one or more electronic securities-trading markets to a user computer, comprising:

- (a) electronically receiving over a computer network a request from the user computer to view information on a security or group of securities traded on one or more electronic securities-trading markets;
- (b) electronically receiving over a computer network data describing the liquidity conditions in said electronic securities-trading market(s);
- (c) electronically storing said received data describing the liquidity conditions in said electronic securities-trading market(s);
- (d) calculating a market impact analysis display for said security or group of securities, based on said received data describing said liquidity conditions in said securities-trading market(s), that displays projected market impact as a function of trade size in one or more piecewise-continuous curves; and
- (e) transmitting said market impact analysis display or data sufficient to generate said market impact analysis display to said user computer.
- 2. The method of claim 1 further comprising the steps of
 - (a) receiving and storing data describing intra-day trading activity in said security on said electronic securities-trading market(s);
 - (b) calculating an intra-day trading activity analysis display; and
 - (c) transmitting said display to said user computer.
- 3. The method of claim 1 further comprising the step of updating, either periodically or continuously, said market impact analysis display transmitted to said user computer, based on real-time data received from said market(s).

4. The method of claim 2 further comprising the step of updating, either periodically or continuously, said intra-day trading analysis display transmitted to said user computer, based on real-time received data from said market(s).

- The method of claim 2 wherein said market impact analysis display and said intra-day trading analysis display are displayed in a single split display.
- The method of claim 2 wherein said intra-day trading analysis display comprises a
 display that shows trade data for one or more market participant classes.
- The method of claim 1 wherein said group of securities is a published index of securities.
- 8. The method of claim 1 wherein said group of securities is a user-defined basket of securities.
- The method of claim 1 wherein said calculations to generate said market impact analysis display incorporate user trading costs.
- 10. The method of claim 2 wherein said intra-day trading activity analysis display also calculates and displays information regarding the price of trading activity relative to the best executable order prices.
- 11. The method of claim 2 wherein said intra-day trading activity analysis display also displays information regarding the range of market maker bids and the range of market maker offers.
- 12. The method of claim 2 wherein said intra-day trading activity analysis display also calculates and displays information regarding the estimated change in market maker inventory.

13. A computer program, stored on a computer readable medium, for displaying data regarding one or more electronic securities-trading markets to a user computer, said program comprising:

- (a) software for electronically receiving over a computer network a request from the user computer to view information on a security or group of securities traded on one or more electronic securities-trading markets;
- (b) software for electronically receiving over a computer network data describing the liquidity conditions in said electronic securities-trading market(s);
- (c) software for electronically storing said received data describing the liquidity conditions in said electronic securities-trading market(s);
- (d) software for calculating a market impact analysis display for said security or group of securities, based on said received data describing said liquidity conditions in said securities-trading market(s), that displays projected market impact as a function of trade size in one or more piecewise-continuous curves; and
- (e) software for transmitting said market impact analysis display or data sufficient to generate said market impact analysis display to said user computer.
- 14. The program of claim 13 further comprising software for:
 - (a) receiving and storing data describing intra-day trading activity in said security on said electronic securities-trading market(s);
 - (b) calculating an intra-day trading activity analysis display; and
 - (c) transmitting said display to said user computer.
- 15. The program of claim 13 further comprising software for updating, either periodically or continuously, said market impact analysis display transmitted to said user computer, based on real-time data received from said market(s).
- 16. The program of claim 14 further comprising software for updating, either periodically or continuously, said intra-day trading analysis display transmitted to said user computer, based on real-time received data from said market(s).

17. The program of claim 14 wherein said market impact analysis display and said intraday trading analysis display are displayed in a single split display.

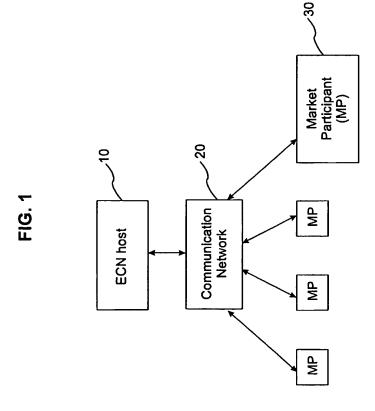
- 18. The program of claim 14 wherein said intra-day trading analysis display comprises a display that shows trade data for one or more market participant classes.
- The program of claim 13 wherein said group of securities is a published index of securities.
- The program of claim 13 wherein said group of securities is a user-defined basket of securities.
- 21. The program of claim 13 wherein said calculations to generate said market impact analysis display incorporate user trading costs.
- 22. The program of claim 14 wherein said intra-day trading activity analysis display also calculates and displays information regarding the price of trading activity relative to the best executable order prices.
- 23. The program of claim 14 wherein said intra-day trading activity analysis display also displays information regarding the range of market maker bids and the range of market maker offers.
- 24. The program of claim 14 wherein said intra-day trading activity analysis display also calculates and displays information regarding the estimated change in market maker inventory.
- 25. A computer program, stored on a computer readable medium, for displaying data regarding one or more electronic securities-trading markets to a user computer, said program comprising:

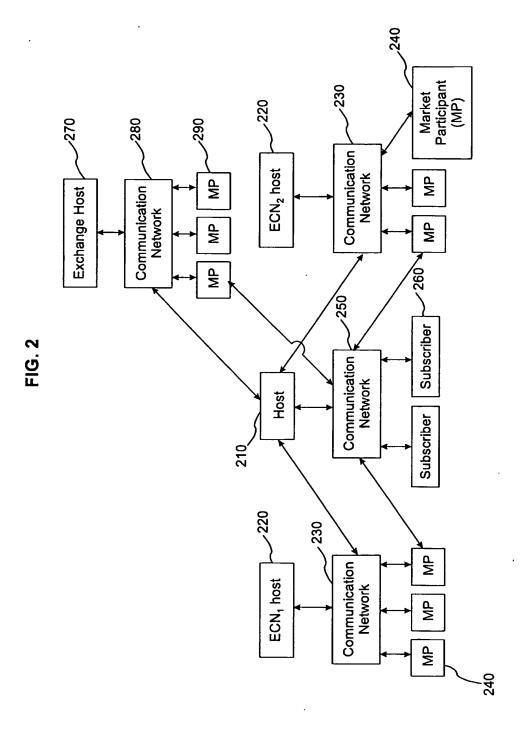
 (a) software for receiving a user request for information on a security or group of securities traded on said electronic securities-trading market(s);

- (b) software for transmitting said user request over a computer network to a remotely located computer;
- (c) software for receiving a market impact analysis display for said security that displays projected market impact as a function of trade size in one or more piecewise-continuous curves; and
- (d) software for displaying said received market impact analysis display on said user computer.
- 26. A computer program, stored on a computer readable medium, for displaying data regarding one or more electronic securities-trading markets to a user computer, said program comprising:
- (a) software for receiving a user request for information on a security or group of securities traded on said electronic securities-trading market(s);
- (b) software for transmitting said user request over a computer network to a remotely located computer;
- (c) software for receiving data sufficient to generate a market impact analysis display for said security that displays projected market impact as a function of trade size in one or more piecewise-continuous curves;
- (d) software for generating said market impact analysis display, based on data received over said computer network from said remotely located computer; and
 - (e) software for displaying said market impact analysis display on said user computer.
- 27. A computer program, stored on a computer readable medium, for displaying data regarding one or more electronic securities-trading markets to a user computer, said program comprising:
- (a) software for receiving a user request for information on a security or group of securities traded on said electronic securities-trading market(s);

(b) software for accessing from said user computer data sufficient to generate a market impact analysis display for said security or securities that displays projected market impact as a function of trade size in one or more piecewise-continuous curves;

- (c) software for generating said market impact analysis display, based on data accessed from said user computer; and
- (d) software for displaying said market impact analysis display on said user computer.





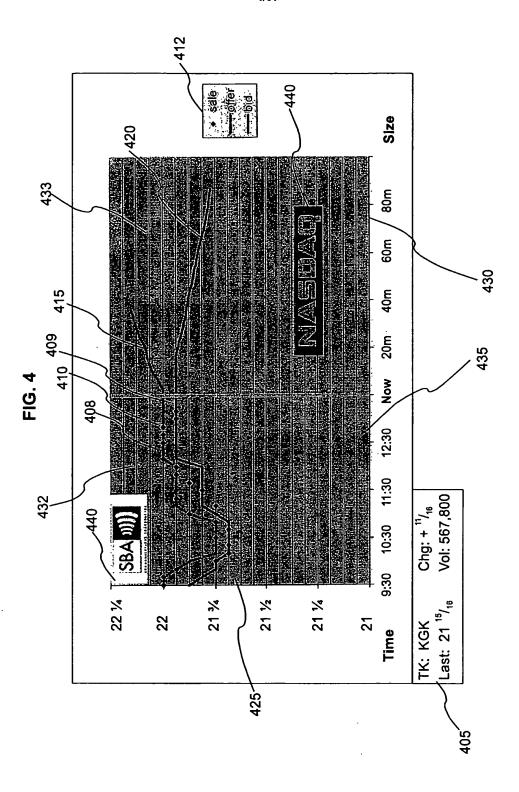
WO 01/75733 PCT/US01/10325 3/14

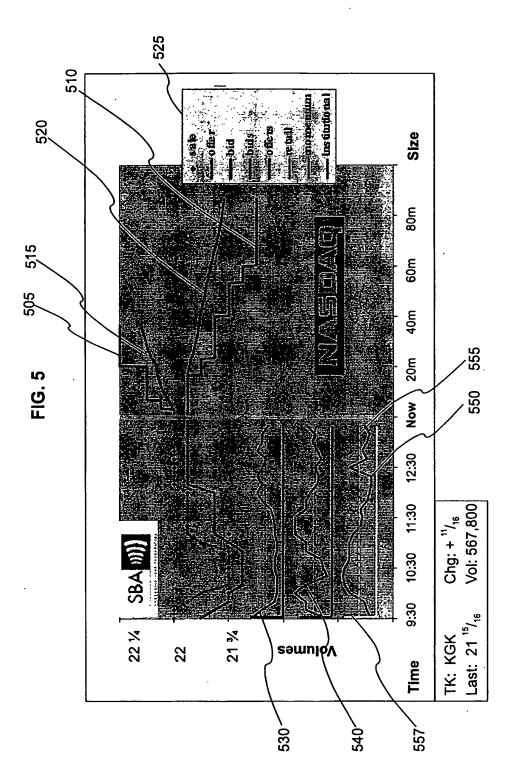
FIG. 3

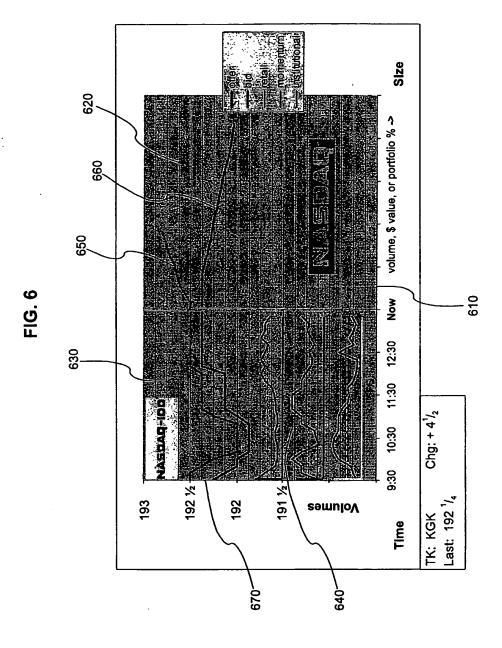
Chg -1 3/16 Vol 234,500 TK KGK Hi 22 3/4 Last 21 15/16 21 7/8 Low

> Sell Buy

Price	Quantity	Minimum	Price	Quantity	Minimum
21 7/8	12,100	0	21 15/16	8,000	0
21 13/16	1,700	0	21 13/10	37,500	20,000
21 3/4	43,200	10,000	22 1/16	1,000	20,000
21 11/16	1,100	0	22 1/8	2,300	0
21 5/8	14,900	0	22 3/16	12,600	0
21 9/16	1,000	0	22 1/4	48,700	0
21 1/2	132,000	25,000	22 5/16	22,100	0
21 7/16	500	0	22 3/8	2,300	0
21 3/8	1,000	0	22 7/16	500	0
21 5/16	700	0	22 1/2	33,000	15,000
21 1/4	100,000	25,000	22 9/16	300	0
21 3/16	300	0	22 5/8	800	0
21 1/8	4,800	0	22 11/16	3,600	0
21 1/16	5,000	0	22 3/4	8,000	0
21	100,000	25,000	22 13/16	100	0

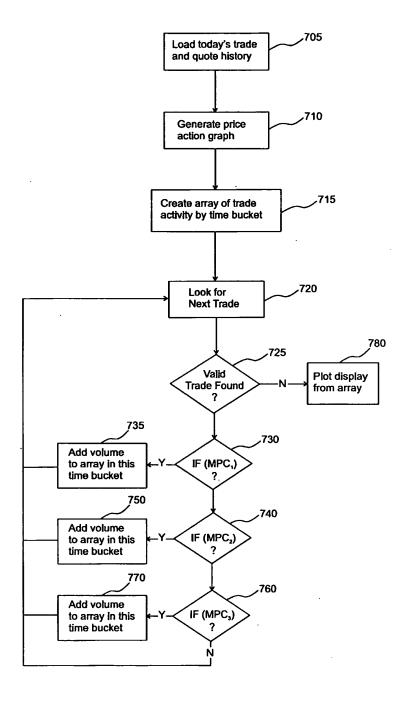






7/14

FIG. 7





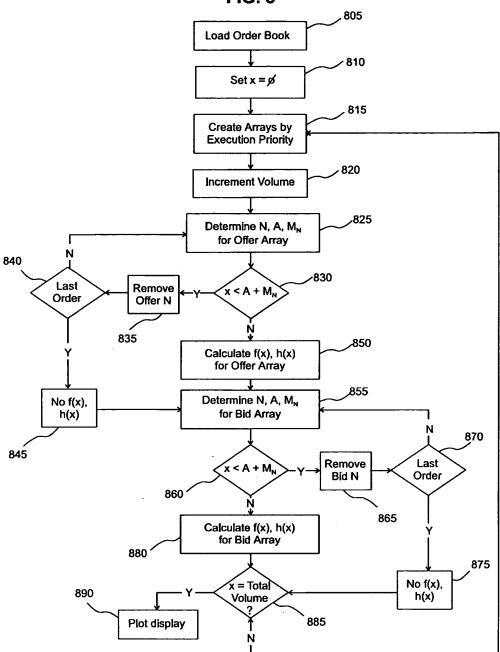


FIG. 9

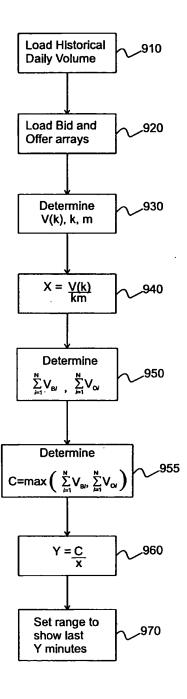


FIG. 10

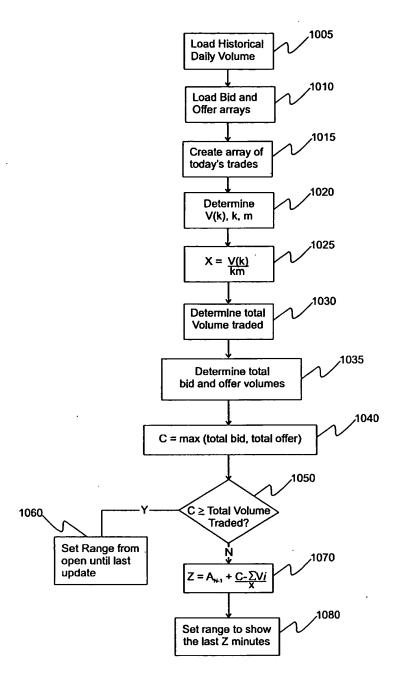
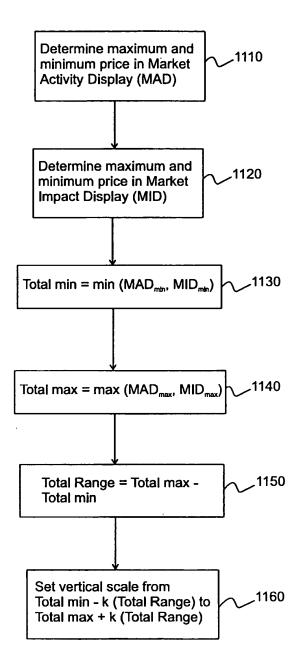
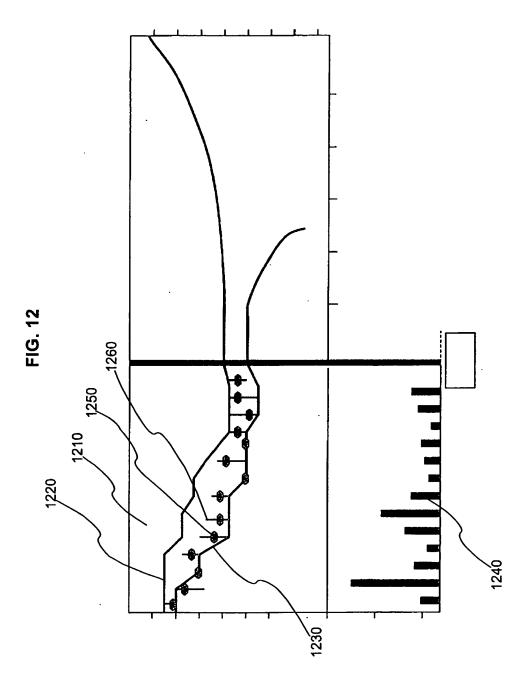


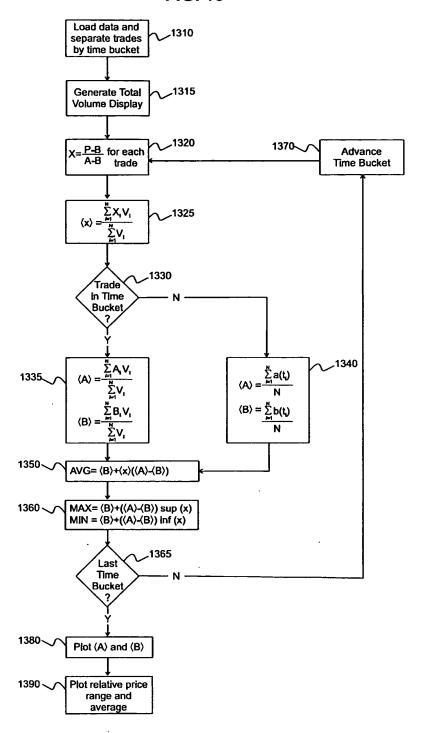
FIG. 11

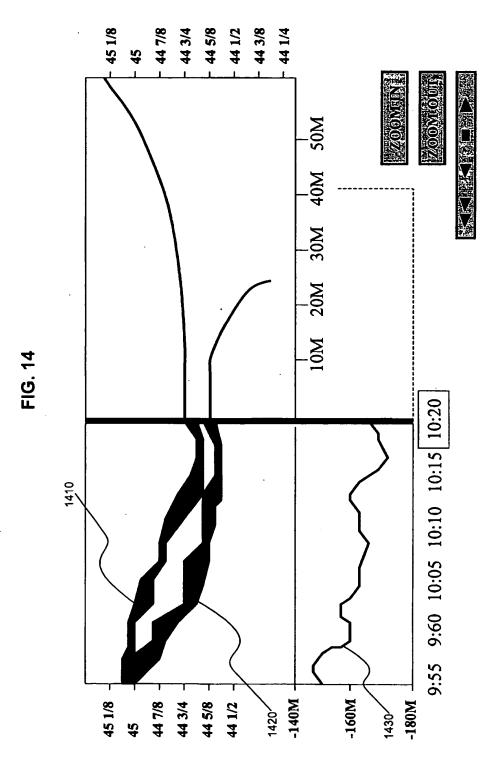




13/14

FIG. 13





INTERNATIONAL SEARCH REPORT

ım ınaı application No. PCT/US01/10325

IPC(7)	SSIFICATION OF SUBJECT MATTER : G 06 F 17/60							
	: 705/35,36,37 to International Patent Classification (IPC) or to both	national classification and IPC						
	DS SEARCHED							
	ocumentation searched (classification system followed	by classification symbols)						
U.S. :	705/35,36,37							
Documentat	tion searched other than minimum documentation to the	extent that such documents are included in the fields searched						
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) east, west, dialog								
C. DOCUMENTS CONSIDERED TO BE RELEVANT								
Category*	Citation of document, with indication, where ap	propriate, of the relevant passages Relevant to claim No.						
Y	US 5,347,452 A (BAY, Jr.) 13 Septe col. 1, line 35 - col. 2, line 49.	ember 1994, abstract. fig. 1. 1-25						
Y	US 5,689,651 A (LOZMAN) 18 Nov. col. 29-63.	ember 1997, abstract. fig. 1. 1-25						
A	US 6,014,643 A (MINTON) 11 Janua 10, lines 3-14.	ry 2000, abstract. fig. 1. col. 1-25						
A	US 5,809,483 A (BROKA et al) 15 September 1998, abstract. fig. 48. col. 41-54.							
		·						
Furth	ner documents are listed in the continuation of Box C.	See patent family annex.						
	ecial categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the						
	cument defining the general state of the art which is not considered be of particular relevance	principle or theory underlying the invention						
	rlier document published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step						
cit	cument which may throw doubts on priority claim(s) or which is ed to establish the publication date of another citation or other	when the document is taken alone 'Y' document of particular relevance; the claimed invention cannot be						
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	current published prior to the international filing date but later than a priority date claimed	*&* document member of the same patent family						
	actual completion of the international search	Date of mailing of the international search report						
28 JULY	2001	22 AUG 2001						
Commissio Box PCT	mailing address of the ISA/US mer of Patents and Trademarks	Authorized officer VINCENT MILLES AMERICA R. Matthews						
Facsimile N	n, D.C. 20231 No. (703) 305-3230	Telephone No. (703) 308-1065						

Form PCT/ISA/210 (second sheet) (July 1998)*

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Part of Paper No. 09102004

Search Notes							

Application No.	Applicant(s)	
09/289,550	FRIESEN ET AL.	
Examiner	Art Unit	
Charles R Kyle	3624	

SEARCHED								
Class	Subclass	Date	Examiner					
705	37	9/9/2004	CRK					

INTERFERENCE SEARCHED							
Subclass	Date	Examiner					
1							

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<u>L22</u>	move near bid	65 <u>L22</u>
<u>L21</u>	bid near axis	3 <u>L21</u>
<u>L20</u>	drag\$ near bid	① <u>L20</u>
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<u>L18</u>	116 and 345.769.cor.	0 <u>L18</u>
<u>L17</u>	L16 and 705/37.cor.	$\underbrace{15}_{L17}$
<u>L16</u>	scale\$ near2 axis	5311 <u>L16</u>
<u>L15</u>	scale near2 axis	4783 <u>L15</u>
<u>L14</u>	price adj axis	<u>47</u> <u>L14</u>
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<u>L8</u>	345/769.ccls.	177 <u>L8</u>
<u>L7</u>	5136501.pn.	(2) L7

<u>L6</u>	(virtual adj reality).ti. and 705/\$.ccls.	(3)	<u>L6</u>
<u>L5</u>	705/37.ccls. and (virtual adj reality)	(30)	<u>L5</u>
<u>L4</u>	705/37.cor. and (virtual adj reality)	26	<u>L4</u>
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L1	(bid or offer) near3 (scale or axis or axes)	1205	L1

END OF SEARCH HISTORY

- = REVIEWED TILAS/KUIC

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE JUL 2 7 2004

Appl. No.

09/289,550

Confirmation No. 8747

OFFICIAL

Applicants:

Richard W. Friesen et al.

Filed

04/09/1999

TC/A.U.

3624

Examiner

Charles R Kyle

Docket No. :

3854

AMENDMENT AND REMARKS TO ACCOMPANY THE REQUEST FOR CONTINUED EXAMINATION

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Sir:

In response to the Final Office Action of March 9, 2004, please amend the identified application as follows:

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks/Arguments begin on page 13 of this paper.

Amendments to the Claims:

In accordance with 37 CFR § 1.121, please amend claims 1, 2, 4, 10-12, 16, 18, 28, 61-69, cancel claims 3, 5-9, 13-15, 17, 32, and 59-60 without prejudice or disclaimer, and add new claims 70-98 as set forth below.

Listing of Claims:

(Currently amended) A computer based method for facilitating the placement of 1. an order for an item and for displaying transactional information to a user regarding the buying and selling of items in a system where orders comprise a bid type or an offer type, and an order is generated for a quantity of the item items at a specific value, the method comprising:

displaying a plurality of bid indicators icons, each corresponding to at least one bid a bid for a quantity of the item items, each bid indicator item at a location along a first scaled axis of values corresponding to a value associated with the at least one bid the value of the bid, including bids having different values; and

displaying a plurality of offer indicators icons, each corresponding to at least one offer an offer for a quantity of the item items, each offer indicator icon at a location along the first scaled axis of values corresponding to a value associated with the at least one offer the value of the offer, including offers having different values;

displaying an order icon associated with an order by the user for a particular quantity of the item; and

in response to a user initiated command, moving the order icon to a location associated with a value along the first scaled axis of values.

- (Currently amended) The method of claim 1 further comprising:
 providing an wherein the order icon whose size is adjustable by the user to reflect the quantity of the order.
- 3. (Canceled)
- 4. (Currently amended) The method of claim 1 further comprising: receiving a request for an order responsive to a user action specifying a quantity of the item of items and value for the order; and

displaying further comprises displaying a requested order icon corresponding to the specified quantity and value information.

- 5.-9. (Canceled)
- 10. (Currently amended) The method of <u>claim 1 further comprising</u>: claim 4 in a system in which order icons placed by <u>the user</u> a user are displayed to the user with a first visual characteristic, and <u>orders</u> order icons placed by other users are displayed with a second visual characteristic to the user, and wherein displaying an order icon further comprises:

displaying the requested order icon placed by the user with a with the first visual characteristic to the user who requested the order; and

displaying the bid and offer indicators corresponding to orders placed by other users requested order icon with the with a second visual characteristic to other users.

- 11. (Currently amended) The method of claim 1 further comprising: displaying each of the plurality of bid and offer indicators an order icon having an edge which is angled toward the <u>first scaled</u> axis of values.
- 12. (Currently amended) The method of claim 1 further comprising:

 receiving market information representing a new order to buy for a quantity of the

 item items for a specified value;

in response to the received market information, generating a bid indicator an order icon whose size corresponds to the quantity of the item items bid for; and

placing the <u>bid indicator order ison</u> at a location along the <u>first scaled</u> axis of values corresponding to the specified value of the <u>bid order</u>.

13.-15. (Canceled)

16. (Currently amended) The method of claim 1 further comprising:
receiving <u>market information representing</u> a new order to sell for a quantity of the
<u>item stems</u> for a specified value;

in response to the received market information, generating an offer indicator an order icon whose size corresponds to the quantity of the item items for which the offer is made; and

placing the <u>offer indicator</u> order icon at a location along the first <u>scaled</u> axis of values corresponding to the specified value of the offer.

- 17. (Canceled)
- 18. (Currently amended) The method of claim 1 further comprising:

 generating a second axis, perpendicular to the first scaled axis of values axis, representing time;

generating a third axis, perpendicular to the second axis, representing value; and displaying a historical chart representing values of the item responsive to time and value with respect to the second and third axes.

Claims 19 - 27. (Canceled)

28. (Currently amended) A computer based method for placing an order for an item at a desired value for a desired quantity in a system in which remote terminals display all outstanding orders for the item wherein orders comprise bids and offers, and a transaction server receives orders transmitted by each remote terminal and communicates the received orders to all remote terminals, comprising: The method of claim 1 further comprising:

displaying a plurality of order tokens having different values;
receiving a selection for an order token; and
moving the order token to a user specified location with respect to the first scaled

axis of values a value axis and a quantity axis which corresponds to the desired value and quantity for the order;

thereby enabling placing of the order in accordance with the desired value and quantity.

29 - 60. (Canceled)

- 61. (Currently amended) The method of elaim 60 claim 1 further comprising visually distinguishing bid indicators from offer indicators ask indicators.
- 62. (Currently amended) The method of claim 1 further comprising visually distinguishing the order icon from the plurality of bid and offer indicators bid and ask indicators.
- 63. (Currently amended) The method of claim 1 further comprising displaying a marker representing a value of interest at a location associated with a value on the first scaled axis of values axis.
- 64. (Previously presented) The method of claim 63 wherein the location at which the marker is displayed is updated dynamically.
- 65. (Currently amended) The method of claim 59 claim 1 wherein the user initiated command comprises selecting the order icon using a pointer device and dragging the

order icon to the location.

- 66. (Currently amended) The method of slaim 59 claim 1 further comprising modifying the order icon based on a transaction.
- 67. (Currently amended) The method of elaim 59 claim 1 wherein the size of the order icon teken is associated with the quantity of the order.
- 68. (Currently amended) The method of elaim 59 claim 1 wherein the values on the first scaled axis of values axis represent price.
- 69. (Currently amended) The method of claim 1 wherein the item comprises a commodity.
- 70. (New) The method of claim 63 wherein the marker comprises a line.
- 71. (New) The method of claim 1 wherein the values on the first scaled axis of values represent a qualitative measure other than price.
- 72. (New) The method of claim 71 wherein the qualitative measure represents a derivative of price.
- 73. (New) The method of claim 72 wherein the derivative of price is an interest rate, a

bond cost, an implied interest rate, or implied volatility of the item.

- 74. (New) The method of claim 71 wherein the qualitative measure represents any metric by which an item can be valued.
- 75. (New) The method of claim 71 wherein different qualitative measures can be chosen by the user.
- 76. (New) The method of claim 71 further comprising receiving a command to select a new qualitative measure and updating the display of the plurality of bid indicators and the plurality of offer indicators to locations along the first scaled axis of values corresponding to values associated with the new qualitative measure.
- 77. (New) The method of claim 1 wherein the bid indicator displays the quantity of the item associated with the bid and the offer indicator displays the quantity of the item associated with the offer.
- 78. (New) The method of claim 1 wherein the order icon displays the quantity of the order placed by the user.
- 79. (New) The method of claim 1 further comprising displaying contextual data along with the plurality of bid and offer indicators.

- 80. (New) The method of claim 79 wherein the contextual data is displayed as a historical chart along the first scaled axis of values.
- 81. (New) The method of claim 79 wherein the contextual data is displayed as a volume graph
- 82. (New) The method of claim 79 wherein the contextual data indicates the high and low values of the item for a period of time.
- 83. (New) The method of claim 1 wherein the first scaled axis is graduated in intervals such that each interval represents a particular value.
- 84. (New) The method of claim 1 further comprising the step of displaying the values along the first scaled axis of values.
- 85. (New) The method of claim 1 wherein the each of plurality of bid and offer indicators are graphically represented to the user as icons.
- 86. (New) A computer readable medium having program code recorded thereon for execution on a computer for displaying transactional information to a user regarding the buying and selling of items in a system where orders comprise a bid type or an offer type, and an order is generated for a quantity of an item at a specific value, the method comprising:

a first program code for displaying a plurality of bid indicators, each corresponding to at least one bid for a quantity of the item, each bid indicator at a location along a first scaled axis of values corresponding to a value associated with the at least one bid;

a second program code for displaying a plurality of offer indicators, each corresponding to at least one offer for a quantity of the item, each offer indicator at a location along the first scaled axis of values corresponding to a value associated with the at least one offer,

a third program code for displaying an order icon associated with an order by the user for a particular quantity of the item; and

a fourth program code for, in response to a user initiated command, moving the order icon to a location associated with a value along the first scaled axis of values.

87. (New) A computer based method for displaying transactional information to a user regarding the buying and selling of items in a system where orders comprise a bid type or an offer type, and an order is generated for a quantity of the item at a specific value, the method comprising:

displaying a plurality of bid indicators, each corresponding to at least one bid for a quantity of the item;

displaying a plurality of offer indicators, each corresponding to at least one offer for a quantity of the item;

wherein the plurality of bid indicators and the plurality of offer indicators are displayed at locations corresponding to values along a scaled axis such that the values

represent a derivative of price for the item.

- 88. (New) The method of claim 72 wherein the derivative of price is an interest rate, a bond cost, an implied interest rate, or implied volatility of the item.
- 89. (New) The method of claim 87 wherein the derivative of price is customizable.
- 90. (New) A computer based method for facilitating the placement of an order for an item and for displaying transactional information to a user regarding the buying and selling of items in a system where orders comprise a bid type or an offer type, and an order is generated for a quantity of the item at a specific value, the method comprising:

displaying a plurality of bid indicators, each corresponding to at least one bid for a quantity of the item, each bid indicator at a location along a first scaled axis of values corresponding to a value associated with the at least one bid; and

displaying a plurality of offer indicators, each corresponding to at least one offer for a quantity of the item, each offer indicator at a location along the first scaled axis of values corresponding to a value associated with the at least one offer;

displaying an order token associated with at least one preset order parameter; and in response to a user immated command, moving the order token to a location associated with a desired value along the first scaled axis of values.

91. (New) The method of claim 90 wherein the user initiated command comprises dragging the order token to the location.

- 92. (New) The method of claim 90 wherein the at least one preset order parameter comprises a quantity for an order to be sent.
- 93. (New) The method of claim 90 wherein the at least one preset order parameter comprises a bid type or an offer type.
- 94. (New) The method of claim 90 wherein the order token represents an order to be sent, wherein the order to be sent would have order parameters equal to the at least one preset order parameter of the order token and a value equal to the desired value associated with the location the order token was moved to.
- 95. (New) The method of claim 90 wherein an order having order parameters equal to the at least one preset order parameter of the order token and a value equal to the desired value is sent to a transaction server.
- (New) The method of claim 95 wherein, in response to being sent, the displayed 96. order token becomes an order icon representing the user's own order for the item.
- 97. (New) The method of claim 90 wherein the size of the order token is adjustable by the user to reflect the quantity of the order to be sent.
- 98. (New) The method of claim 90 wherein the order token is associated with a

plurality of preset order parameters.

REMARKS

Applicant thanks the Examiner for the opportunity to discuss the features and benefits of the presently claimed invention during a teleconference held on March 2, 2004 between the Examiner and Steve Borsand. The participants discussed Silverman et al. cited in rejecting claim 1 and discussed distinguishing features of the independent claim, including the distinguishing features presented in this response.

In the Office Action of March 4, 2004, on page 2, the Examiner withdraws the rejections under 35 U.S.C. 101 of the prior office action based on Applicants' remarks.

On page 2 of the Office Action, the rejection under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention of dependent claim 62 is respectfully traversed. Claim 62 depends from independent claim 1, which has been amended to further clarify "the order icon" recited in claim 62. The "order icon" in claim 62 represents the order that, according to claim 1, is associated with an order "by the user for a particular quantity of the item," and is clearly distinguished from the plurality of bid and ask indicators because the order icon is associated with the user's own order.

The rejection of claims 1, 4-9, 12 and 16-17 under 35 U.S.C. 102(b) as being anticipated by U.S. patent no. 5,136,501 to Silverman et al. ("Silverman") is respectfully traversed.

Applicants respectfully disagree with the Examiner's interpretation of Silverman.

Silverman describes an anonymous matching system in which bids are automatically matched against offers for given trading instruments. Logical models are used in the

figures of Silverman, for example Figs. 4 and 5, to illustrate how the disclosed matching system operates. With particular reference to Col. 4, line 27 to Col. 5, line 25, Silverman describes that various pieces of information shown in the logical models, such as the best bid or offer, are used "to generate displays at the keystations" (see also Col. 10, lines 1-10). Of course, it is understood that displaying the best bid or offer, among other things, is necessary for the Silverman matching system to work. However, the Silverman reference does not concern itself with the actual graphical display of that information. Rather, Silverman uses the logical models to describe central and keystation order books of the matching system and its operation, and not how the information is graphically displayed to the user.

Further, in Figs. 4 and 5, Silverman illustrates order books employed in the distributed matching system. To facilitate an understanding of the matching system, the logical model in Fig. 4 shows boxes that represent entries in the market in numerical order from the highest absolute price to lowest absolute price. (Col. 9, lines 46 et seq.). According to Silverman, "[t]his convention is also followed in connection with the keystation book of FIG. 5 which is a subset of the system or central station or host book of FIG. 4." (Col. 10, lines 1-10). As such, Figs. 4 and 5 are simple illustrations of arranging entries in numerical order from highest to lowest. Once a new entry enters the market, the logical model may move the entries to preserve the relative ordering. (See also Fig. 14 in Silverman). This simple ordering arrangement does not teach or suggest Applicants' step of displaying bids and offers at particular locations along an "axis" corresponding to the value of the bids and offers.

Nonetheless, Applicants have amended independent claim 1 to particularly point

out an aspect of Applicants' invention. Of course, Applicants reserve the right to pursue the invention claimed by the previously presented claims, such as previously presented independent claim 1, in a later case.

Accordingly, independent claim 1 as amended distinguishes over Silverman, at least because Silverman does not show, teach, or suggest displaying "each bid indicator at a location along a first scaled axis of values..." and displaying "each offer indicator at a location along the first scaled axis of values..." In particular, Silverman does not describe the step of displaying indicators along a "scaled axis of values." Furthermore, Silverman does not show, teach, or suggest "displaying an order icon associated with an order by the user for a particular quantity of the item." More specifically, Silverman does not distinguish a user's own order from orders of others. Silverman also does not disclose the element of "in response to a user initiated command, moving the order icon to a location associated with a value along the first scaled axis of values" because at the very least, Silverman does not show an order icon placed by the user.

The remaining pending claims 4, 12 and 16, which were rejected under 35 U.S.C. 102(b) depend ultimately from currently amended, independent claim 1, and are patentable over Silverman for at least the same reasons that claim 1 is patentable over Silverman.

On pages 4-5, the Examiner rejected claims 10, 11, 13-15 under 35 U.S.C. 103(a) as being unpatentable over Silverman. On pages 5-7, the Examiner rejected claims 2-3 and 59-69 under 35 U.S.C. 103(a) as being unpatentable over Silverman in view of U.S. patent no. 5,619,631 to Schott et al. ("Schott"). On pages 7-8, the Examiner rejected claims 18 and 28 under 35 U.S.C. 103(a) as being unpatentable over Silverman in view of

U.S. patent no. 6,188,403 to Sacerdott et al. ("Sacerdott"). On pages 8-9, the Examiner rejected claim 32 under 35 U.S.C 103(a) as being unpatentable over Silverman in view of the publication entitled "How the Futures Markets Work" by Jake Bernstein, p. 62 and figure 5.1 ("Bernstein"). Applicant respectfully traverses each of these rejections and requests reconsideration.

As a result of the current amendment, all of the presently rejected claims under 35 U.S.C. 103(a) ultimately depend from claim 1, and for at least the reasons described below, are patentable over the cited references. As indicated earlier, Silverman does not disclose, teach or suggest various limitations of independent claim 1. For example, at the very least, Silverman does not show, teach, or suggest displaying indicators along a "scaled axis of values," "displaying an order icon associated with an order by the user...," or "in response to a user initiated command, moving the order icon...," all three of which are elements found in Applicants' claim 1.

In addition, none of the other cited references including Schott and Sacerdoti show at least these elements missing from Silverman to render claim 1 obvious to one of ordinary skill in the art. In particular, neither Schott nor Sacerdoti show, teach, or suggest at least the elements of displaying indicators along a "scaled axis of values," "displaying an order icon associated with an order by the user...," or "in response to a user initiated command, moving the order icon..." Moreover, there is simply no suggestion to combine the cited references to fill in these missing elements.

Furthermore, each of the pending rejected dependent claims are allowable over the cited references for their own separate reasons.

For example, with respect to claim 2, the Examiner admits that Silverman does

not show icons adjustable to reflect the quantity of the order. Using Schott, the Examiner attempts to address this missing element. However, Schott also does not show icons "adjustable by the user to reflect the quantity of the order," nor is there any suggestion to combine such references as Silverman's logical models are not meant for display or even data manipulation. They are shown only for purposes of describing a matching system.

With respect to claim 10, it would not have been obvious to one of ordinary skill in the art at the time the invention was made, in view of Silverman, to distinguish orders placed by the user from orders placed by other users. Because Silverman does not specifically address entering orders into a display, Silverman makes no attempt or suggestion to distinguish between a user's own orders and other users' orders.

As to claims 18 and 28, Silverman and Sacerdoti make no suggestion to add the elements set forth in these dependent claims. For example, neither suggest having a third axes representing historical activity of the market as called for by claim 18. Also, as to claim 28, Applicants respectfully disagree with the Examiner's statement that Silverman, at Col. 6, line 61 to Col. 7, line 13, teaches placement of an order in accordance with value and quantity. The referred lines simply describe using conventional order entry, and not "moving the order token to a user specified location with respect to a value axis and a quantity axis which corresponds to the desired value and quantity for the order; thereby enabling placing of the order in accordance with the desired value and quantity."

With the current amendment, the method claimed in previously presented claim 59 is now incorporated into independent claim 1. Contrary to the Examiner's statement that claim 59 is unpatentable over Silverman in view of Schott, neither Silverman or Schott disclose displaying an order icon and, in response to a user initiated command,

"moving the order icon" to a location associated with a value along the first scaled axis of values. First, Silverman does not disclose an "order placement system" as the Examiner suggests, but rather Silverman discloses an anonymous matching system. The referred lines in Silverman (referred to Col. 1, line 29 to Col. 2, line 63; and Figs. 4 and 5) merely describe what the prior art matching systems lack and go into explicit detail describing various aspects of features missing in prior art matching systems. Furthermore, Silverman describes the anonymous matching system using only a conventional order entry (see Col. 7, lines 1-5), and does not suggest a more sophisticated order entry system that uses data manipulation. Second, the referred lines in Schott (Col. 3, lines 20-25 and Col. 20, line 60 to Col. 21, line 28) describe modification of bar graphs, not the claimed element of "moving the order icon to a location associated with a value along the first scaled axis of values." As such, neither Silverman alone or combined with Schott render the element claimed in previously presented claim 59, and now claim 1, obvious.

For similar reasons above, Silverman and Schott make no suggestions to render obvious the elements called for in currently amended dependent claims 61-69.

Nonetheless, presently pending claims 1, 2, 4, 10-12, 16, 18, 28, and 61-69 depend either directly or indirectly for independent claim 1 and are patentable over Silverman for at least the same reasons that claim 1 is patentable over Silverman, both alone and in combination with the other cited references.

Claims 3, 5-9, 13-15, 17, 32, and 59-60 have been cancelled without prejudice or disclaimer. Therefore, any arguments for patentability may be moot for these claims.

New claims 70 – 98 are presented herewith. No new matter has been added.

In light of the foregoing, Applicants submit that the present application is in condition for allowance and notice to that effect is hereby requested.

Respectfully Submitted

McDonnell Boehnen Hulbert & Berghoff LLP

Matthew J. Sampson

✓ Reg. No. 35,999

Date: April 1, 2004

McDonnell Boehnen Hulbert & Berghoff LLP 300 S. Wacker Drive Chicago, IL 60606 312-913-0001

BASIC FEE

Extension of Time fee

Other

\$ 770.00

	REQUEST FOR CONTINUED EXAMINATION (RCE) TRANSMITTAL							
Address		Mail Stop RCE Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450		Attorney Docket No.: Application No.: Filing Date. First Named Inventor Group Art Unit: Examiner Name:	09/289,550 April 9, 1999			
ide	This is a Request for Continued Examination (RCE) under 37 C.F.R. §1.114 of the above-identified application.							
1.	Submission required under 37 C.F.R. § 1.114 a							
2.	Miscellaneous a Suspension of action on the above-identified application is requested under 37 C F.R. § 1.103(c) for a period of months. (Period of suspension shall not exceed 3 months; Fee under 37 C F.R. § 1 17 (i) required) b. Other							

[Page 1 of 2]

APPLICATION FEES

Total of above calculations = \$ 770.00

Reduction by 50% for filing by small entity = \$ ()

TOTAL = \$ 770.00

PAGE 5/25 * RCVD AT 7/27/2004 10:38:09 AM [Eastern Daylight Time] * SVR:USPTO-EFXRF-2/2 * DNIS:7468000 * CSID:3129132120 * DURATION (mm-ss):06-00

	TRANSMITTAL	Attorney Docket No. 03-1106				
3 Please charge my Deposit Account No. 13-2490 in the amount of \$770.00.						
4. A chec	ck in the amount of \$ is enclo	sed				
the following a. ⊠ b ⊠	the following types to Deposit Account No. 13-2490: a. Fees required under 37 CFR 1.16. Fees required under 37 CFR 1.17.					
6. The Commissioner is hereby generally authorized under 37 CFR 1.136(a)(3) to treat any future reply in this or any related application filed pursuant to 37 CFR 1.53 requiring an extension of time as incorporating a request therefor, and the Commissioner is hereby specifically authorized to charge Deposit Account No. 13-2490 for any fee that may be due in connection with such a request for an extension of time.						
	7. CERTIFICATE OF MAIL	ING OR TRANSMISSION				
☐ I hereby certify that this correspondence is being transmitted by facsimile to the U.S. Patent and Trademark Office at 703-872-9306, or being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on the date indicated below. ☐ I hereby certify that, under 37 CFR § 1.10, I directed that the correspondence identified above be deposited with the United States Postal Service as "Express Mail Post Office to Addressee," addressed to: Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450, on the date indicated below. Express Mail No.						
	8. USPTO CUSTO	MER NUMBER				
20306						
McDonnell Boshnen Hulbert & Berghoff LLP						
9	SIGNATURE OF APPLICANT, AT	TORNEY, OR AGENT REQUIRED				
Name	Matthew J. Sampson					
Reg. No.	35,999					
Signature	Watter Sans	DOW				
Date	April 1, 2004					

[Page 2 of 2]

PAGE 6/25* RCVD AT 7/27/2004 10:38:09 AM [Eastern Daylight Time] * SVR:USPTO-EFXRF-2/2 * DNIS:7468000 * CSID:3129132120 * DURATION (mm-ss):06-00



McDonnell Boshnen Hulbert & Berghoff

Fax transmittal

Examiner Charles R. Kyle

July 27, 2004

sampson@mbhb.com

Company

U.S. Patent Office

703-305-7687

Matthew J. Sampson From

Fax

Direct 312-913-2119

Phone

Pages,

25

Email С/М

Date

with cover

U.S. Patent Application Serial No. 09/289,550 Re

Dear Examiner Kyle:

Enclosed is a copy of a Request for Continued Examination (RCE) Transmittal and an Amendment and Remarks to Accompany the Request for Continued Examination that we previously transmitted to the U.S. Patent Office on April 1, 2004 by Facsimile. I am also enclosing a copy of our facsimile confirmation and the auto-reply facsimile transmission from the U.S. Patent Office. Please contact me if you need anything else.

Matthew J. Sampson sarfipson@mbhb.com

300 South Wacker Drive Chicago, Illinois 60606-6709 312 913 0002 fax www.mbhb.com

312 913 0001 phone

Please notify receptionist if all pages are not received If you received this fax in error, please notify us immediately by phone (collect) to arrange for return of the document.

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Received Cover Page

	M THE UNITED STATE	PATENT AND	PATENT CRADEMARK OPFICE
In re-	t. Application of:)	
	Frieson at 117-		Examiner: Charles B. Nyle Group Art Unit: 3674
Serial	No., 09/289,550	j	Fax No.: 703-872-9305
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1.	We are transmitting herewith the	three lead	
	Amendment and Remarks to and Request for Continuent South	* =	Request for Communed Examination.
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.3	that this Transconsi Letter and to	the paper, as described the paper of the pap	1.8. The undersigned hereby conflict about in paragraph 1 heromapove, are 703-072-9516, according to 37 CFB singer for Params, P.O. Box 1450,
			Responding summilies.
Date.	APTÎL 1. 2004	Ву	Manager Volume No. 35,999

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PAGE 2/25 * RCVD AT 7/27/2004 10:38:09 AM [Eastern Daylight Time] * SVR:USPTO-EFXRF-2/2 * DNIS:7468000 * CSID:3129132120 * DURATION (mm-ss):06-00

07-27-04 09:37am From-MBHB 3129132120 T-874 P.03 *** TX REPORT ** ************ TRANSMISSION OK JUL 27 2004 TX/RX NO 0937 17038729306

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PATENT

F-729

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE (Case No. 03-1106)

In re Application of:	•
) Examiner: Charles R. Kyle
Friesen et al.)
) Group Art Unit: 3624
Serial No.: 09/289,550)
•) Fax No.: 703-872-9306
Filed: April 9, 1999)
) No. Of Pages: 22
For: User Interface for an Electronic Trading)
System)

Mail Stop RCE Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

FACSIMILE TRANSMITTAL LETTER

Sir:

In regard to the above identified application:

- We are transmitting herewith the attached: 1.
 - a. Amendment and Remarks to Accompany the Request for Continued Examination;
 - b. Request for Continued Examination (RCE) Transmittal.
- 2. With respect to fees:
 - Please charge my Deposit Account No. 13-2490 in the amount of \$770.00.
 - Please charge any additional fees or credit overpayment to Deposit Account No. 13-2490.

PAGE 3/25 * RCVD AT 7/27/2004 10:38:09 AM [Eastern Daylight Time] * SVR:USPTO-EFXRF-2/2 * DNIS:7468000 * CSID:3129132120 * DURATION (mm-ss):06-00.

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE (Case No. 03-1106)

In re Application of:)	
Friesen et al.))	Examiner: Charles R. Kyle
Serial No.: 09/289,550	·)	Group Art Unit: 3624
Filed: April 9, 1999		Fax No.: 703-872-9306
For: User Interface for an Electronic Trading System))	No. Of Pages: 22
Mail Stop RCE		
Commissioner for Patents		
P.O. Box 1450		
Alexandria, VA 22313-1450		

FACSIMILE TRANSMITTAL LETTER

Sir:

In regard to the above identified application:

- 1. We are transmitting herewith the attached:
 - Amendment and Remarks to Accompany the Request for Continued Examination;
 and
 - b. Request for Continued Examination (RCE) Transmittal.
- 2. With respect to fees:
 - a. Please charge my Deposit Account No. 13-2490 in the amount of \$770.00.
 - Please charge any additional fees or credit overpayment to Deposit Account No. 13-2490.
- 3. CERTIFICATE OF MAILING UNDER 37 CFR § 1.8: The undersigned hereby certifies that this Transmittal Letter and the paper, as described in paragraph 1 hereinabove, are being transmitted to the USPTO facsimile number 703-872-9306, according to 37 CFR 1.6(d) addressed to: Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on April 1, 2004.

Respectfully sul

Date: April 1, 2004

Ву: __

Matthew J. Sampson

Reg. No. 35,999

MCPONNELL BOERNEN HULBERT & BERGHOFF LLP 300 SOUTH WACKER DRIVE CHICAGO, ILLINOIS 00606 TELEPHONE (312) 913-0001

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APR 0 1 2004 OFFICIAL

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.

09/289,550

Confirmation No. 8747

Applicants:

Richard W. Friescn et al.

Filed

04/09/1999

TC/A.U.

3624

Examiner

Charles R Kyle

Docket No.

3854

AMENDMENT AND REMARKS TO ACCOMPANY THE REQUEST FOR CONTINUED EXAMINATION

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

:

Sit:

In response to the Final Office Action of March 9, 2004, please amend the identified application as follows:

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks/Arguments begin on page 13 of this paper.

Amendments to the Claims:

In accordance with 37 CFR § 1.121, please amend claims 1, 2, 4, 10-12, 16, 18, 28, 61-69, cancel claims 3, 5-9, 13-15, 17, 32, and 59-60 without prejudice or disclaimer, and add new claims 70-98 as set forth below.

Listing of Claims:

1. (Currently amended) A computer based method for <u>facilitating the placement of</u>
an order for an item and for displaying transactional information to a user regarding the
buying and selling of items in a system where orders comprise a bid type or an offer type,
and an order is generated for a quantity of <u>the item</u> items at a specific value, the method
comprising:

displaying a plurality of bid <u>indicators</u> icons, each corresponding to <u>at least one</u>

<u>bid a bid</u> for a quantity of <u>the item items</u>, each bid <u>indicator</u> icon at a location along a first

<u>scaled</u> axis of values corresponding to <u>a value associated with the at least one bid</u> the

<u>value of the bid, including bids having different values; and</u>

displaying a plurality of offer indicators isons, each corresponding to at least one offer an offer for a quantity of the item items, each offer indicator ison at a location along the first scaled axis of values corresponding to a value associated with the at least one offer the value of the offer, including offers having different values;

displaying an order icon associated with an order by the user for a particular quantity of the item; and

in response to a user initiated command, moving the order icon to a location associated with a value along the first scaled axis of values.

- (Currently amended) The method of claim 1 further comprising:
 providing an wherein the order icon whose size is adjustable by the user to reflect the quantity of the order.
- 3. (Canceled)
- 4. (Currently amended) The method of claim 1 further comprising:
 receiving a request for an order responsive to a user action specifying a quantity
 of the item of items and value for the order; and

displaying further-comprises displaying a requested order icon-corresponding to the specified quantity and value information.

5.-9. (Canceled)

10. (Currently amended) The method of claim 1 further comprising: elaim 4 in a system in which order icons placed by the user a user are displayed to the user with a first visual characteristic, and orders order icons placed by other users are displayed with a second visual characteristic to the user, and wherein displaying an order icon further comprises:

displaying the requested order icon <u>placed by the user with a with the</u> first visual characteristic to the user who requested the order; and

displaying the bid and offer indicators corresponding to orders placed by other users requested order icon with the with a second visual characteristic to other users.

- 11. (Currently amended) The method of claim 1 further comprising: displaying each of the plurality of bid and offer indicators an order icon having an edge which is angled toward the first scaled axis of values.
- 12. (Currently amended) The method of claim 1 further comprising:
 receiving market information representing a new order to buy for a quantity of the
 item items for a specified value;

in response to the received market information, generating a bid indicator an order item whose size corresponds to the quantity of the item items bid for; and

placing the <u>bid indicator</u> order icon at a location along the <u>first scaled</u> axis of values corresponding to the specified value of the <u>bid order</u>.

13.-15. (Canceled)

16. (Currently amended) The method of claim 1 further comprising:
receiving market information representing a new order to sell for a quantity of the
item items for a specified value;

in response to the received market information, generating an offer indicator an order icon whose size corresponds to the quantity of the item items for which the offer is made; and

placing the <u>offer indicator</u> order icon at a location along the first <u>scaled</u> axis of values corresponding to the specified value of the offer.

- 17. (Canceled)
- 18. (Currently amended) The method of claim 1 further comprising:

 generating a second axis, perpendicular to the first scaled axis of values axis,
 representing time;

generating a third axis, perpendicular to the second axis, representing value; and displaying a historical chart representing values of the item responsive to time and value with respect to the second and third axes.

Claims 19 - 27. (Canceled)

28. (Currently amended) A computer based method for placing an order-for an item at a desired value for a desired quantity in a system in which remote terminals display all outstanding orders for the item wherein orders comprise bids and offers, and a transaction server receives orders transmitted by each remote terminal and communicates the received orders to all remote terminals, comprising: The method of claim 1 further comprising:

displaying a plurality of order tokens having different values;
receiving a selection for an order token; and
moving the order token to a user specified location with respect to the first scaled

axis of values a value axis and a quantity axis which corresponds to the desired value and quantity for the order;

thereby enabling placing of the order in accordance with the desired value and quantity.

29 - 60. (Canceled)

- 61. (Currently amended) The method of claim 60 claim 1 further comprising visually distinguishing bid indicators from offer indicators ask indicators.
- 62. (Currently amended) The method of elaim 60 claim 1 further comprising visually distinguishing the order icon from the plurality of bid and offer indicators bid and ask indicators.
- 63. (Currently amended) The method of elaim 60 claim 1 further comprising displaying a marker representing a value of interest at a location associated with a value on the first scaled axis of values exis.
- 64. (Previously presented) The method of claim 63 wherein the location at which the marker is displayed is updated dynamically.
- 65. (Currently amended) The method of elaim 59 claim 1 wherein the user initiated command comprises selecting the order icon using a pointer device and dragging the

order icon to the location.

- 66. (Currently amended) The method of elaim 59 claim 1 further comprising modifying the order icon based on a transaction.
- 67. (Currently amended) The method of elaim 59 claim 1 wherein the size of the order icon token is associated with the quantity of the order.
- 68. (Currently amended) The method of claim 59 claim 1 wherein the values on the first scaled axis of values axis represent price.
- 69. (Currently amended) The method of claim 59 claim 1 wherein the item comprises a commodity.
- 70. (New) The method of claim 63 wherein the marker comprises a line.
- 71. (New) The method of claim 1 wherein the values on the first scaled axis of values represent a qualitative measure other than price.
- 72. (New) The method of claim 71 wherein the qualitative measure represents a derivative of price.
- 73. (New) The method of claim 72 wherein the derivative of price is an interest rate, a

bond cost, an implied interest rate, or implied volatility of the item.

- 74. (New) The method of claim 71 wherein the qualitative measure represents any metric by which an item can be valued.
- 75. (New) The method of claim 71 wherein different qualitative measures can be chosen by the user.
- 76. (New) The method of claim 71 further comprising receiving a command to select a new qualitative measure and updating the display of the plurality of bid indicators and the plurality of offer indicators to locations along the first scaled axis of values corresponding to values associated with the new qualitative measure.
- 77. (New) The method of claim 1 wherein the bid indicator displays the quantity of the item associated with the bid and the offer indicator displays the quantity of the item associated with the offer.
- 78. (New) The method of claim 1 wherein the order icon displays the quantity of the order placed by the user.
- 79. (New) The method of claim I further comprising displaying contextual data along with the plurality of bid and offer indicators.

- 80. (New) The method of claim 79 wherein the contextual data is displayed as a historical chart along the first scaled axis of values.
- 81. (New) The method of claim 79 wherein the contextual data is displayed as a volume graph.
- 82. (New) The method of claim 79 wherein the contextual data indicates the high and low values of the item for a period of time.
- 83. (New) The method of claim 1 wherein the first scaled axis is graduated in intervals such that each interval represents a particular value.
- 84. (New) The method of claim 1 further comprising the step of displaying the values along the first scaled axis of values.
- 85. (New) The method of claim 1 wherein the each of plurality of bid and offer indicators are graphically represented to the user as icons.
- 86. (New) A computer readable medium having program code recorded thereon for execution on a computer for displaying transactional information to a user regarding the buying and selling of items in a system where orders comprise a bid type or an offer type, progum Code and an order is generated for a quantity of an item at a specific value, the method comprising:

a first program code for displaying a plurality of bid indicators, each corresponding to at least one bid for a quantity of the item, each bid indicator at a location along a first scaled axis of values corresponding to a value associated with the at least one bid;

a second program code for displaying a plurality of offer indicators, each corresponding to at least one offer for a quantity of the item, each offer indicator at a location along the first scaled axis of values corresponding to a value associated with the at least one offer;

a third program code for displaying an order icon associated with an order by the user for a particular quantity of the item; and

a fourth program code for, in response to a user initiated command, moving the order icon to a location associated with a value along the first scaled axis of values.

87. (New) A computer based method for displaying transactional information to a user regarding the buying and selling of items in a system where orders comprise a bid type or an offer type, and an order is generated for a quantity of the item at a specific value, the method comprising:

displaying a plurality of bid indicators, each corresponding to at least one bid for a quantity of the item;

displaying a plurality of offer indicators, each corresponding to at least one offer for a quantity of the item;

wherein the plurality of bid indicators and the plurality of offer indicators are displayed at locations corresponding to values along a scaled axis such that the values

represent a derivative of price for the item.

- 88. (New) The method of claim 72 wherein the derivative of price is an interest rate, a bond cost, an implied interest rate, or implied volatility of the item.
- 89. (New) The method of claim 87 wherein the derivative of price is customizable.
- 90. (New) A computer based method for facilitating the placement of an order for an item and for displaying transactional information to a user regarding the buying and selling of items in a system where orders comprise a bid type or an offer type, and an order is generated for a quantity of the item at a specific value, the method comprising:

displaying a plurality of bid indicators, each corresponding to at least one bid for a quantity of the item, each bid indicator at a location along a first scaled axis of values corresponding to a value associated with the at least one bid; and

displaying a plurality of offer indicators, each corresponding to at least one offer for a quantity of the item, each offer indicator at a location along the first scaled axis of values corresponding to a value associated with the at least one offer;

displaying an order token associated with at least one preset order parameter; and in response to a user initiated command, moving the order token to a location associated with a desired value along the first scaled axis of values.

91. (New) The method of claim 90 wherein the user initiated command comprises dragging the order token to the location.

- 92. (New) The method of claim 90 wherein the at least one preset order parameter comprises a quantity for an order to be sent.
- 93. (New) The method of claim 90 wherein the at least one preset order parameter comprises a bid type or an offer type.
- 94. (New) The method of claim 90 wherein the order token represents an order to be sent, wherein the order to be sent would have order parameters equal to the at least one preset order parameter of the order token and a value equal to the desired value associated with the location the order token was moved to.
- 95. (New) The method of claim 90 wherein an order having order parameters equal to the at least one preset order parameter of the order token and a value equal to the desired value is sent to a transaction server.
- 96. (New) The method of claim 95 wherein, in response to being sent, the displayed order token becomes an order icon representing the user's own order for the item.
- 97. (New) The method of claim 90 wherein the size of the order token is adjustable by the user to reflect the quantity of the order to be sent.
- 98. (New) The method of claim 90 wherein the order token is associated with a

plurality of preset order parameters.

REMARKS

Applicant thanks the Examiner for the opportunity to discuss the features and benefits of the presently claimed invention during a teleconference held on March 2, 2004 between the Examiner and Steve Borsand. The participants discussed Silverman et al. cited in rejecting claim 1 and discussed distinguishing features of the independent claim, including the distinguishing features presented in this response.

In the Office Action of March 4, 2004, on page 2, the Examiner withdraws the rejections under 35 U.S.C. 101 of the prior office action based on Applicants' remarks.

On page 2 of the Office Action, the rejection under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention of dependent claim 62 is respectfully traversed. Claim 62 depends from independent claim 1, which has been amended to further clarify "the order icon" recited in claim 62. The "order icon" in claim 62 represents the order that, according to claim 1, is associated with an order "by the user for a particular quantity of the item," and is clearly distinguished from the plurality of bid and ask indicators because the order icon is associated with the user's own order.

The rejection of claims 1, 4-9, 12 and 16-17 under 35 U.S.C. 102(b) as being anticipated by U.S. patent no. 5,136,501 to Silverman et al. ("Silverman") is respectfully traversed.

Applicants respectfully disagree with the Examiner's interpretation of Silverman.

Silverman describes an anonymous matching system in which bids are automatically matched against offers for given trading instruments. Logical models are used in the

figures of Silverman, for example Figs. 4 and 5, to illustrate how the disclosed matching system operates. With particular reference to Col. 4, line 27 to Col. 5, line 25, Silverman describes that various pieces of information shown in the logical models, such as the best bid or offer, are used "to generate displays at the keystations" (see also Col. 10, lines 1-10). Of course, it is understood that displaying the best bid or offer, among other things, is necessary for the Silverman matching system to work. However, the Silverman reference does not concern itself with the actual graphical display of that information. Rather, Silverman uses the logical models to describe central and keystation order books of the matching system and its operation, and not how the information is graphically displayed to the user.

Further, in Figs. 4 and 5, Silverman illustrates order books employed in the distributed matching system. To facilitate an understanding of the matching system, the logical model in Fig. 4 shows boxes that represent entries in the market in numerical order from the highest absolute price to lowest absolute price. (Col. 9, lines 46 et seq.). According to Silverman, "[t]his convention is also followed in connection with the keystation book of FIG. 5 which is a subset of the system or central station or host book of FIG. 4." (Col. 10, lines 1-10). As such, Figs. 4 and 5 are simple illustrations of arranging entries in numerical order from highest to lowest. Once a new entry enters the market, the logical model may move the entries to preserve the relative ordering. (See also Fig. 14 in Silverman). This simple ordering arrangement does not teach or suggest Applicants' step of displaying bids and offers at particular locations along an "axis" corresponding to the value of the bids and offers.

Nonetheless, Applicants have amended independent claim 1 to particularly point

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out an aspect of Applicants' invention. Of course, Applicants reserve the right to pursue the invention claimed by the previously presented claims, such as previously presented independent claim 1, in a later case.

Accordingly, independent claim 1 as amended distinguishes over Silverman, at least because Silverman does not show, teach, or suggest displaying "each bid indicator at a location along a first scaled axis of values..." and displaying "each offer indicator at a location along the first scaled axis of values..." In particular, Silverman does not describe the step of displaying indicators along a "scaled axis of values." Furthermore, Silverman does not show, teach, or suggest "displaying an order icon associated with an order by the user for a particular quantity of the item." More specifically, Silverman does not distinguish a user's own order from orders of others. Silverman also does not disclose the element of "in response to a user initiated command, moving the order icon to a location associated with a value along the first scaled axis of values" because at the very least, Silverman does not show an order icon placed by the user.

The remaining pending claims 4, 12 and 16, which were rejected under 35 U.S.C. 102(b) depend ultimately from currently amended, independent claim 1, and are patentable over Silverman for at least the same reasons that claim 1 is patentable over Silverman.

On pages 4-5, the Examiner rejected claims 10, 11, 13-15 under 35 U.S.C. 103(a) as being unpatentable over Silverman. On pages 5-7, the Examiner rejected claims 2-3 and 59-69 under 35 U.S.C. 103(a) as being unpatentable over Silverman in view of U.S. patent no. 5,619,631 to Schott et al. ("Schott"). On pages 7-8, the Examiner rejected claims 18 and 28 under 35 U.S.C. 103(a) as being unpatentable over Silverman in view of

U.S. patent no. 6,188,403 to Sacerdoti et al. ("Sacerdoti"). On pages 8-9, the Examiner rejected claim 32 under 35 U.S.C. 103(a) as being unpatentable over Silverman in view of the publication entitled "How the Futures Markets Work" by Jake Bernstein, p. 62 and figure 5.1 ("Bernstein"). Applicant respectfully traverses each of these rejections and requests reconsideration.

As a result of the current amendment, all of the presently rejected claims under 35 U.S.C. 103(a) ultimately depend from claim 1, and for at least the reasons described below, are patentable over the cited references. As indicated earlier, Silverman does not disclose, teach or suggest various limitations of independent claim 1. For example, at the very least, Silverman does not show, teach, or suggest displaying indicators along a "scaled axis of values," "displaying an order icon associated with an order by the user...," or "in response to a user initiated command, moving the order icon...," all three of which are elements found in Applicants' claim 1.

In addition, none of the other cited references including Schott and Sacerdoti show at least these elements missing from Silverman to render claim 1 obvious to one of ordinary skill in the art. In particular, neither Schott nor Sacerdoti show, teach, or suggest at least the elements of displaying indicators along a "scaled axis of values," "displaying an order icon associated with an order by the user...," or "in response to a user initiated command, moving the order icon..." Moreover, there is simply no suggestion to combine the cited references to fill in these missing elements.

Furthermore, each of the pending rejected dependent claims are allowable over the cited references for their own separate reasons.

For example, with respect to claim 2, the Examiner admits that Silverman does

not show icons adjustable to reflect the quantity of the order. Using Schott, the Examiner attempts to address this missing element. However, Schott also does not show icons "adjustable by the user to reflect the quantity of the order," nor is there any suggestion to combine such references as Silverman's logical models are not meant for display or even data manipulation. They are shown only for purposes of describing a matching system.

With respect to claim 10, it would not have been obvious to one of ordinary skill in the art at the time the invention was made, in view of Silverman, to distinguish orders placed by the user from orders placed by other users. Because Silverman does not specifically address entering orders into a display, Silverman makes no attempt or suggestion to distinguish between a user's own orders and other users' orders.

As to claims 18 and 28, Silverman and Sacerdoti make no suggestion to add the elements set forth in these dependent claims. For example, neither suggest having a third axes representing historical activity of the market as called for by claim 18. Also, as to claim 28, Applicants respectfully disagree with the Examiner's statement that Silverman, at Col. 6, line 61 to Col. 7, line 13, teaches placement of an order in accordance with value and quantity. The referred lines simply describe using conventional order entry, and not "moving the order token to a user specified location with respect to a value axis and a quantity axis which corresponds to the desired value and quantity for the order; thereby enabling placing of the order in accordance with the desired value and quantity."

With the current amendment, the method claimed in previously presented claim 59 is now incorporated into independent claim 1. Contrary to the Examiner's statement that claim 59 is unpatentable over Silverman in view of Schott, neither Silverman or Schott disclose displaying an order icon and, in response to a user initiated command,

"moving the order icon" to a location associated with a value along the first scaled axis of values. First, Silverman does not disclose an "order placement system" as the Examiner suggests, but rather Silverman discloses an anonymous matching system. The referred lines in Silverman (referred to Col. 1, line 29 to Col. 2, line 63; and Figs. 4 and 5) merely describe what the prior art matching systems lack and go into explicit detail describing various aspects of features missing in prior art matching systems. Furthermore, Silverman describes the anonymous matching system using only a conventional order entry (see Col. 7, lines 1-5), and does not suggest a more sophisticated order entry system that uses data manipulation. Second, the referred lines in Schott (Col. 3, lines 20-25 and Col. 20, line 60 to Col. 21, line 28) describe modification of bar graphs, not the claimed element of "moving the order icon to a location associated with a value along the first scaled axis of values." As such, neither Silverman alone or combined with Schott render the element claimed in previously presented claim 59, and now claim 1, obvious.

For similar reasons above, Silverman and Schott make no suggestions to render obvious the elements called for in currently amended dependent claims 61-69.

Nonetheless, presently pending claims 1, 2, 4, 10-12, 16, 18, 28, and 61-69 depend either directly or indirectly for independent claim 1 and are patentable over Silverman for at least the same reasons that claim 1 is patentable over Silverman, both alone and in combination with the other cited references.

Claims 3, 5-9, 13-15, 17, 32, and 59-60 have been cancelled without prejudice or disclaimer. Therefore, any arguments for patentability may be most for these claims.

New claims 70 - 98 are presented herewith. No new matter has been added.

In light of the foregoing, Applicants submit that the present application is in condition for allowance and notice to that effect is hereby requested.

Respectfully Submitted

McDonnell Boehnen Hulbert & Berghoff LJ.P

By:

Matthew J. Sampson

Reg. No. 35,999

Date: April 1, 2004

McDonnell Boelmen Hulbert & Berghoff LLP 300 S. Wacker Drive Chicago, IL 60606 312-913-0001



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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE (Case No. 03-1106)

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re Application of:)	APR 0 1 2004			
)	Examiner: Charles R. Kyle			
Friesen et al.)				
)	Group Art Unit: 3624			
Serial No.: 09/289,550)				
)	Fax No.: 703-872-9306			
Filed: April 9, 1999)				
)	No. Of Pages: 22			
For: User Interface for an Electronic Trading)				
System)				
Mail Stop RCE					
Commissioner for Patents					
P.O. Box 1450					
Alexandria, VA 22313-1450					

FACSIMILE TRANSMITTAL LETTER

Sir:

In regard to the above identified application:

- 1. We are transmitting herewith the attached:
 - a. Amendment and Remarks to Accompany the Request for Continued Examination;
 - b. Request for Continued Examination (RCE) Transmittal.
- With respect to fees:
 - a. Please charge my Deposit Account No. 13-2490 in the amount of \$770.00.
 - b. Please charge any additional fees or credit overpayment to Deposit Account No. 13-2490.
- 3. CERTIFICATE OF MAILING UNDER 37 CFR § 1.8: The undersigned hereby certifies that this Transmittal Letter and the paper, as described in paragraph 1 hereinabove, are being transmitted to the USPTO facsimile number 703-872-9306, according to 37 CFR 1.6(d) addressed to: Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on April 1, 2004.

Date: April 1, 2004

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Agathew J. Sampson

Reg. No. 35,999

MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP 300 SOUTH WACKER DRIVE

PAGE 1/22 * RCVD AT 4/1/2004 6:11:15 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/4 * DNIS:8729306 * CSID:312 913 0002 * DURATION (mm-ss):05-30

		F	REQUEST FOR CONTINUE		ON (RCE)
Address to: Mail Stop RCE Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450		Attorney Docket No.: Application No.: Filing Date: First Named Inventor: Group Art Unit: Examiner Name:	09/289,550 April 9, 1999		
ide	This is a Request for Continued Examination (RCE) under 37 C.F.R. §1.114 of the above-identified application.				
1.	Subr a.	i. ii. iii.	required under 37 C.F.R. § 1.114 Previously submitted Consider the amendment(s)/reply Consider the arguments in the Ap		
	b.	i. ii. iii. iv.	Enclosed Amendment/Reply Affidavit(s)/Declaration(s) Information Disclosure Statemen Other	t (IDS)	
2.	Misca.	ellaned	Suspension of action on the above-io	ths, (Period of suspens	equested under 37 C.F.R. sion shall not exceed 3

	APPLICATION FEES	
BASIC FEE		\$ 770.00
☐ Extension of Time fee	+\$	\$
Other	+\$	\$
	Total of above calculations =	\$ 770.00
	Reduction by 50% for filing by small entity =	\$()
	TOTAL =	\$ 770.00

[Page 1 of 2]

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3.		Please	charge my Deposit Acc	ount No. 13-2490 in the amo	ount of \$770.00.
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5.	The Control of the formation at the form	ollowing 1 F F	sioner is hereby authoriz types to Deposit Accoun lees required under 37 C lees required under 37 C lees required under 37 C	t No. 13-2490; CFR 1.16. CFR 1.17.	r charge any additional fees of
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/289,550	04/09/1999	RICHARD W. FRIESEN	3854	8747
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,			3624	
			DATE MAILED: 03/09/2004	4
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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application N	Applicant(s)	
	09/289,550	FRIESEN ET AL.	
Office Action Summary	Examiner	Art Unit	1 . / 1
•	Charles R Kyle	3624	MW_
The MAILING DATE of this communication app Period for Reply	ears on the cover sheet with the c	orrespondence add	dress
A SHORTENED STATUTORY PERIOD FOR REPLY THE MAILING DATE OF THIS COMMUNICATION. - Extensions of time may be available under the provisions of 37 CFR 1.13 after SIX (6) MONTHS from the mailing date of this communication. - If the period for reply specified above is less than thirty (30) days, a reply - If NO period for reply is specified above, the maximum statutory period w Failure to reply within the set or extended period for reply will, by statute, Any reply received by the Office later than three months after the mailing earned patent term adjustment. See 37 CFR 1.704(b).	16(a). In no event, however, may a reply be tin within the statutory minimum of thirty (30) day fill apply and will expire SIX (6) MONTHS from cause the application to become ABANDONE	nely filed s will be considered timely, the mailing date of this co D (35 U.S.C. § 133).	mmunication.
Status			
1)⊠ Responsive to communication(s) filed on 10 No	ovember 2003.		
•	action is non-final.		
3) Since this application is in condition for allowant closed in accordance with the practice under E			merits is
Disposition of Claims			
4) Claim(s) 1-18,28,32 and 59-69 is/are pending in 4a) Of the above claim(s) is/are withdraw 5) Claim(s) is/are allowed. 6) Claim(s) 1-18,28,32 and 59-69 is/are rejected. 7) Claim(s) is/are objected to. 8) Claim(s) are subject to restriction and/or Application Papers	vn from consideration. relection requirement.		·
9)☐ The specification is objected to by the Examine			
10)☐ The drawing(s) filed on is/are: a)☐ acce			
Applicant may not request that any objection to the o			
Replacement drawing sheet(s) including the correcting 11) The oath or declaration is objected to by the Extended to be the Extended to the control of the co			
Priority under 35 U.S.C. § 119			
12) Acknowledgment is made of a claim for foreign a) All b) Some * c) None of: 1. Certified copies of the priority documents 2. Certified copies of the priority documents 3. Copies of the certified copies of the prior application from the International Bureau * See the attached detailed Office action for a list of	s have been received. s have been received in Applicati ity documents have been receive (PCT Rule 17.2(a)).	on No ed in this National \$	Stage
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Attachment(s)	4) 🕅 Intensions Summans	(PTO-413)	
1) ⊠ Notice of References Cited (PTO-892) 2) ☑ Notice of Draftsperson's Patent Drawing Review (PTO-948)	4) Interview Summary Paper No(s)/Mail Da		
3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 33.	5) Notice of Informal P		-152)

U.S. Patent and Trademark Office PTOL-326 (Rev. 1-04)

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Office Action Summary

Part of Paper No./Mail Date 34

Art Unit: 3624

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Page 2

DETAILED ACTION

Claim Rejections - 35 USC § 101

Rejections under 35 U.S.C. 101 of the prior office action are withdrawn based on Applicants' amendment.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 62 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It recited the phrase "distinguishing the order icon from the plurality of bid and ask indicators". In the financial trading art, an order is understood to be a bid or an offer. The claim phrasing suggests that the bid indicators or offer indicators are distinguished from themselves, which is confusing. The Claim has ben examined to the best of the Examiner's ability given the lack of clarity.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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Claims 1, 4-9, 12 and 16-17 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Silverman et al.

Concerning Claim 1, Silverman discloses the invention as claimed including in a computer based (Disclosure of the Invention) method for displaying transactional information regarding the buying and selling of items (Abstract; Fig 18, "4") in a system where orders comprise a bid type or an offer type (Figs. 4 and 18, "Bid Side" and Offer Side"), and an order is generated for a quantity of items at a specific value (Fig, 4, lower left hand box denoting "Value" and "Primary Quantity"), the method comprising:

Displaying a plurality of bid icons each corresponding to a bid for a quantity of items (Fig 4, eles. 73, 75, 77), each bid at a location along a first a first axis of values corresponding to the value of the bid (Fig 4., "Absolute Value" axis), including bids having different values (Fig. 4, elements 73 and 82); and

Displaying a plurality of offer icons each corresponding to an offer for a quantity of items (Fig 4, eles. 94, 96, 98), each bid at a location along a first a first axis of values corresponding to the value of the bid (Fig 4., "Absolute Value" axis), including bids having different values (Fig. 4, elements 88 and 100).

With respect to Claim 4, Silverman discloses order icons containing quantity and value information at Fig. 4, lower left hand box denoting "Value" and "Primary Quantity"

As to Claim 5, Silverman discloses bid slots at Fig 4, elements 73, 75, 77.

Concerning Claim 6, Silverman discloses rearrangement of bid icons at Fig. 13.

As to Claims 7 and 9, Silverman discloses sequencing by time ("Time Order of Offers/Bids, Fig 4.) and value (Absolute Value Axis, Fig. 4).

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As to Claim 8, Silverman discloses horizontal placement of bid icons. It is inherent that the same information is provided as would be provided by vertical placement.

Regarding Claims 12 and 16, see the discussion of Claim 1 above. These Claims also recite the processes of receiving orders and generating icons for new bids or offers, which is taught by *Silverman* at Figs. 4, 14 and 16.

Regarding Claim 17, see above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 10, 11 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Silverman.

With respect to Claim 10, Silverman discloses the invention substantially as claimed. See the discussions set forth above. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have distinguished a bidder's icon with a visual characteristic so that a bidder could understand where he/she stood in the bidding with respect to other bidders' and could understand market trends.

With respect to Claim 11, Silverman discloses high and low price information at Fig. 4.

The use of an angled edge would provide such information and is read as functionally equivalent.

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As to Claim 13, it recites language describing the matching of a bid with an offer and the completion of a trade. It would have been obvious to one of ordinary skill in the art at the time of the invention to have removed an offer icon when a trade for that offer was completed because this would have avoided confusion and contention among multiple traders each thinking that he or she had completed the trade for an unremoved yet already sold offer icon. Further, if a trade were completed for a particular offer the remaining available quantity of items from that offer would be zero, thus implying an icon size also of zero.

Concerning Claims 14 and 15, they describe the matching of bids and offers which are unequal and the display of a "remainder" icon representing items not traded in a partial trade of unequal bids and offers. It would have been obvious to one of ordinary skill in the art at the time of the invention to made provision for such partial trades by representing the trade "remainder" in a proportionally sized icon for a bid or offer because this would have expedited the trade of the total order by trading it in parts.

Claims 2-3 and 59-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Silverman in view of Schott.

As to Claim 2, Silverman discloses the invention substantially as claimed. See the discussion of Claim 1 above. Silverman does not specifically disclose icons adjustable for size based on order size, although the order size data is inherent in his displayed order icons at Fig. 4. Schott discloses manipulation of similar data through user manipulation of size to reflect quantity. See Abstract. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the user manipulation of underlying data disclosed by

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Schott in the invention of Silverman because this would have allowed a user to understand the relative size of orders through greater or lesser visual impact based on user controlled size.

As to Claim 3, Silverman discloses positioning an icon to imply its value at Fig. 4, positioning of bid and offer icons on a vertical axis with indicated prices.

Concerning Claim 59, Silverman discloses the invention substantially as claimed, including in a computer-based method for placing an order regarding buying and selling of items where orders comprise a bid type or an offer type (Col. 1, line 29 to Col. 2, line 63), and an order is generated by a user for a quantity of items at a specific value (Figs. 4 and 5), the steps of:

Displaying an order icon representing the order for a particular quantity of an item (Figs. 4, 5).

Silverman does not specifically disclose moving the order icon to a location associated with a value on an axis in response to a user initiated command. Schott discloses such icon manipulation at Col. 3, lines 20-25 and Col. 20, line 60 to Col. 21, line 28. See also Figs. 10 and 19a. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the order placement system of Silverman with the addition of manipulatable icons disclosed by Schott because this would have allowed creation of dynamic representations of orders, reconfiguration of the graphical representations according to manipulation of the graph and simple and easy modification underlying order data.

Concerning Claim 60, Silverman discloses bid and offer indicators as set forth in the discussion of Claim 1.

As to Claim 61, bid and ask indicators are visually distinguished as being in different bid and offer columns in the display.

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With respect to Claim 62, see the discussion of Claim 61.

With respect to Claim 63, it would have been obvious to modify Silverman with a marker denoting a value of interest because this would draw a trader's attention to a need to perform some important action. For example, a trader might wish to have a particular price identified on an axis as a reminder to trade at that particular price.

As to Claim 64, Silverman discloses dynamic updating of price and therefore icon position at Col. 4, lines 11-17.

Concerning Claim 65, Schott discloses selecting and dragging of an order icon at Col. 21, lines 1-30.

Concerning Claim 66, at Fig. 17, Silverman discloses modification of an order icon based on a transaction as the matching of a ten item bid with two offers comprising nine units.

The modified icon would be a remainder bid of one unit. See also Col. 17, lines 36-47.

Concerning Claim 67, Schott discloses increased size related to quantity of an icon at Fig. 19a and Col. 21, lines 1-30.

Concerning Claim 68, Silverman discloses values on an axis at Fig. 4, "Lowest" to "Highest".

As to Claim 69, Silverman discloses trading a commodity at Col. 1, lines 59-62.

Claims 28 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Silverman in view of Sacerdoti et al.

As to Claim 28, Silverman teaches the invention substantially as claimed including an electronic trading system having orders and receipt of information for those orders, including a

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value axis, which information is displayed. See the discussion of Claim 1 for detailed reference. Silverman does not specifically disclose a quantity axis and display of icons with respect to the axis. Sacerdoti discloses this feature at Figs. 4, 5 and 8. It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the display of icons with respect to quantity axis because this would have provided additional information. A motivation to combine the teachings of the references is given by Sacerdoti et al at Col. 1, lines 20-64 as common subject matter of trading.

Also of note are the facts that *Sacerdoti et al* teach the features of icon size corresponding to quantity, bar graphs etc. (Col. 7, lines 36-45) and user adjustment of icon size to reflect quantity (Summary of the Invention). These features are recited in other claims rejected over other art.

Applicants have amended to recite placement of an order in accordance with value and quantity, which is disclosed by *Silverman* at Col. 6, line 61 to Col. 7, line 13.

As to Claim 18, see the discussion of Claim 28 above. Silverman and Sacerdoti do not specifically disclose a third axis representing historical activity of the market. This additional limitation is read to be like the bar chart representation of stock market activity, which is old and well-known in trading markets. The presentation of such historical information would have been obvious because this would have allowed traders to gain understanding of market trends.

As to Claim 32, Silverman discloses the invention as claimed, including in a method of displaying trading activity of a plurality of traders (Fig. 4, elements 73, 75, 77 and 94, 96, 98), the steps of:

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Displaying a trading pit (Fig. 4, "Central station Book");

Determining for each trader an activity level (Fig. 4, Icon "Primary Quantity" level); and

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Displaying for each trader a token representing the trader at a location in the trading pit.

Silverman does not specifically disclose that the trader token position indicates activity

level of a trader. Bernstein discloses this feature at page 62, "The Pit" and Fig. 5.1. In this case,

activity level is interpreted as contract month positions in the pit. It would have been obvious to

one of ordinary skill in the art at the time the invention was made to have used the position

related activity level of Bernstein in the invention of Silverman because this would have made

clear the traders' interest in improving an order. As the contract month approached, it would be

more likely that exchange activity would increase in an effort to complete a matching of bid and

offer.

Applicants have amended to recite activity levels representative of market transactions of

a trade, which is disclosed by Silverman at Figs. 4 and 5 as bid or offer icons.

Response to Arguments

Applicant's arguments filed November 10, 2003 have been fully considered but they are

not persuasive.

Applicants' substantive arguments begin at page 14 of the response. Applicants first

argue in the third and fourth paragraphs, that Silverman does not disclose displaying bid and

offer icons. Applicants admit at the last sentence of the third paragraph that "information stored

in the databases can be used to generate displays at keystations".

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Applicants' assertion is wrong. At Col. 2, lines 17-28, Silverman specifically discloses that information of bids and offers is used to generate a display. Additionally, Fig. 5 discloses a keystation book of bids and offers, which Silverman specifically discloses as being displayed at Col. 4, line 27 to Col. 5, line 35, particularly Col. 4, line 66 to Col. 5, line 4. Applicants argue that the Figures cited represent only a logical model; the passages cited above show that Silverman displays the information of this model.

Applicant argues that Silverman does not show a vertical axis. At Figs 4 and 5, a vertical axis is specifically disclosed at the left hand side of the figure as "Highest...Lowest".

At page 15 through page 16, Applicants' arguments either restate the previous argument or argue newly claimed limitations.

The rejections are maintained.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles R Kyle whose telephone number is (703) 305-4458. The

examiner can normally be reached on M-F 6:00-2:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vincent A Millin can be reached on (703) 308-1065. The fax phone number for the organization where this application or proceeding is assigned is 703-305-7687.

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).

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March 3, 2004

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VINCENT MILLIN SUPERVISORY PATENT EXAMINER TECHNOLOGY CENTER 3600

	Application No.	Applicant(s)
	09/289,550	FRIESEN ET AL.
Interview Summary	Examiner	Art Unit
•	Charles R Kyle	3624
All participants (applicant, applicant's representative, PTC) personnel):	
(1) <u>Charles R Kyle</u> .	(3)	
(2) Steven Borsand.	(4)	
Date of Interview: 3/2/04.		,
Type: a)⊠ Telephonic b)□ Video Conference c)□ Personal [copy given to: 1)□ applicant	2)∏ applicant's rep	resentative]
Exhibit shown or demonstration conducted: d) Yes If Yes, brief description:	e)⊠ No.	
Claim(s) discussed: 1.		
Identification of prior art discussed: Silverman et al.		,
Agreement with respect to the claims f) was reached.	g)⊠ was not reache	d. h)□ N/A.
Substance of Interview including description of the generic reached, or any other comments: Applicants' features of discussed in relation to Applicants' response of Novmber (A fuller description, if necessary, and a copy of the amerallowable, if available, must be attached. Also, where no allowable is available, a summary thereof must be attached. THE FORMAL WRITTEN REPLY TO THE LAST OFFICE INTERVIEW. (See MPEP Section 713.04). If a reply to the GIVEN ONE MONTH FROM THIS INTERVIEW DATE, OFFORM, WHICHEVER IS LATER, TO FILE A STATEMENT.	displaying of bid and 10, 2003. Indments which the excopy of the amendmed.) ACTION MUST INCOME last Office action has THE MAILING DATOMETINE SUBSTANT	caminer agreed would render the claims ents that would render the claims LUDE THE SUBSTANCE OF THE as already been filed, APPLICANT IS TE OF THIS INTERVIEW SUMMARY ICE OF THE INTERVIEW. See
Summary of Record of Interview requirements on reverse	side or on allached	sileet.
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Examiner Note: You must sign this form unless it is an		
Attachment to a signed Office action.	Exan	niner's signature, if required

U.S. Patent and Trademark Office PTOL-413 (Rev. 04-03)

Interview Summary

Paper No. 34



Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed.
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,

(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)

- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

Applicant(s)/Patent Under Reexamination FRIESEN ET AL. Application/Control No. 09/289,550 Art Unit Examiner Page 1 of 1 3624 Charles R Kyle

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	Α	US-2001/0039527 A1	11-2001	ORDISH et al.	705/37
	В	US-6,272,474 B1	08-2001	Garcia, Crisostomo B.	705/37
	С	US-			
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FOREIGN PATENT DOCUMENTS

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NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
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A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).) Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Notice of References Cited

U.S. Patent and Trademark Office PTO-892 (Rev. 01-2001)

Notice of References Cited

Part of Paper No. 34

PTO/SB/08a (08-03)
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Substitute for form 1449A/PTO

Sheet

(Use as many sheets as necessary)

of

Complete if Known Application Number 09/289,550 Filing Date April 9, 1999 Richard W. Friesen First Named Inventor Art Unit 3624 Kyle, Charles R. Examiner Name 36992.00106 Attorney Docket Number

	T	Dogument Number	U.S. PATENT	Name of Patentee or Applicant of	
Examiner Initials	Cite No. 1 Number - Kind Code ² (if known)		Publication Date MM-DD-YYYY	Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
MUV		US-4,823,265	04-18-1989	Nelson, George E.	
CRIV	 	US- 5,619,631	04-08-1997	Schott, Eric G.	
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•	FOREIGN PATENT DOCUMENTS						
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Examiner Signature	Charlesof	Date Considered	Bhlox	

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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, 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.

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			LOSURE	Filing Date	April 9, 1999			
STATEMENT BY APPLICANT				First Named Inventor	Richard W. Friesen			
				Art Unit	3624			
	(Use as many s	sheets as ned	essary)	Examiner Name	Kyle, Charles R.			
Sheet	2	of	2	Attorney Docket Number	36992.00106			

		NON PATENT LITERATURE DOCUMENTS	
Examiner Initials *	Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
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Applicant's unique citation designation number (optional). Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 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 120 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.

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Response to Parts under 3 1.52 or 1.53					_				
	SIGNA	TURE OF	APPLIC	ANT, ATTORNEY, C	R AGENT				
Firm or Individual name	Marc A. Sockol, Reg. Squire, Sanders & De 600 Hansen Way Palo Alto, CA 94304	empsey L.L.P.							
Signature	MAS	1]	
Date	December 16, 2003								
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Typed or printed nam	e Sandy Yi	•						1	
Signature	Shu	du Vi			Date	December 16,	2003	7	
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Inis collection of information is required by 37 CPR 1.5. The information is required to obtain or retain a benefit by the public winch is to filled quit by the CPP 1.0. The process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CPR 1.14. This collection is estimated to 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 70: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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PTO/SB/83 (06-03) Approved for use through 11/30/2005. OMB 0651-0035

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REQUEST FOR WITHDRAWAL AS ATTORNEY OR AGENT

09/289,550 **Application Number** April 9, 1999 Filing Date Richard W. Friesen **First Named Inventor** Art Unit 3624 Kyle, Charles R. **Examiner Name** 36992.00106 Attorney Docket Number

To: Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450	APPROVED (-4-04 JOHN J. LOVE TO SECTION TO S	GROUP	3:
I hereby apply to withdraw as attorney or agent for the	above identified application.		
The reasons for this request are: Client requested file to	o be transferred to Trading Technologies I	nternational Inc.	

CORRESPONDENCE ADDRESS								
1. The correspondence address is NOT affected by this withdrawal.								
2. 🛭 Cha	nge the corres	pondence address and direct all fu	ture correspo	ondence to:				
Custom	er Number		·		•			
Firm <i>or</i>	al Name	Mr. Steven Borsand Vice President Intellectual Propert	у					
Address		Trading Technologies Internationa	ıl Inc.					
Address		222 South Riverside Plaza, Suite 1	100					
City		Chicago	State	IL	ZIP	60606		
Country		U.S.A.						
Telephone		312.476.1018	Fax	312.476.1182				
all th ☐ the a	ne attorneys/ag attorneys/agen	on behalf of myself and jents of record, ts (with registration numbers) lister ts associated with Customer Numl		hed paper(s), or				
This reques	st is enclosed i	n triplicate (including any attachme	ents).					
Name	Marc A. Socko Squire, Sander 600 Hansen W Palo Alto, CA							
Signature	MA	The						
Date	December 16,	2003						
NOTE: Withdo	awal is effective wh	nen approved rather than when received. Un	less there are at	least 30 days between approval	of withdr	awal		

and the expiration date of a time period for response or possible extension period, the request to withdraw is normally disapproved.

This collection of information is required by 37 CFR 1.36. 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.

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Alexandria, VA 22313-1450 on the date shown below.

Sandy Yi

Typed or printed name

N/A

Total Number of Pages in This Submission

Application Number	09/289,550	
Filing Date	April 9, 1999	L
First Named Inventor	Richard W. Friesen	
Art Unit	3624	
Examiner Name	Kyle, Charles R.	
Attorney Docket Number	36992.00106	· · · · · · · · · · · · · · · · · · ·

		ENCLOSURES	(check all that apply)	
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Fee Attached	ı	Licensing-relate	d Papers	Appeal Communication to Board of Appeals and Interferences
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	SIGNA	TURE OF APPLIC	ANT, ATTORNEY, O	R AGENT
Firm or Individual name	Marc A. Sockol, Reg. Squire, Sanders & De 600 Hansen Way Palo Alto, CA 94304	No. 45,229 empsey L.L.P.		C
Signature	MAS	l Q	_	
Date	December 12, 2003			
		CERTIFICA	TE OF MAILING	

Signature

Date

December 12, 2003

This collection of information is required by 37 CFR 1.5. 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 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:

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FEE TRANSMITTAL

for FY 2004

Effective 10/01/2003. Patent fees are subject to annual revision.

Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$) 180 Attorney Docket No. 36992.00100

Complete if Known

Application Number 09/289,550

Filing Date April 9, 1999

First Named Inventor Richard W. Friesen

Examiner Name Kyle, Charles R.

Art Unit 3624

Attorney Docket No. 36992.00106

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1203 290	2203	145	Multiple dependent o	•	1801	770	2801	385	Request for Continued Examination (RCE)	
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SUBMITTED BY

Complete (if applicable)

Name (Print/Type)

Marc A. Sockol

(Attorney/Agent)

Signature

Complete (if applicable)

40,823

Telephone

650.856.6500

Date

December 12, 2003

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

This collection of information is required by 37 CFR 1.17 and 1.27. 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. 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.



PATENT Attorney Docket No.: 36992.00106

17/04 14 #33

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application Of:

Richard W. Friesen, et al.

Examiner:

Kyle, Charles R.

Serial No:

09/289,550

Art Unit:

3624

Filed:

April 9, 1999

For:

USER INTERFACE FOR AN

ELECTRONIC TRADING SYSTEM

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT PURSUANT TO 37 C.F.R. §§1.97-1.98 WITH FEE

Sirs:

In accordance with the duty of disclosure under 37 CFR §1.56 and pursuant to 37 CFR §§1.97-1.98, Applicants hereby notify the U.S. Patent and Trademark Office of the references listed on the enclosed Form PTO-1449. One copy of each cited reference is submitted herewith.

The present Supplemental Information Disclosure Statement is being submitted after receiving the first office action but before an action closing prosecution on the merits. Accordingly, please charge Deposit Account No. 05-0150 in the amount of \$180.00 as specified in 37 CFR §1.97(c) and 37 CFR §1.17(p).

The submission of the listed documents is not intended as an admission that any such document constitutes prior art against the claims of the present application.

Applicants reserve the right to dispute any of the listed documents as prior art during examination. Furthermore, Applicants do not waive any right to take any action that would be appropriate to antedate or otherwise remove any listed document as a



PATENT

Attorney Docket No.: 36992.00106

competent reference against the claims of the present application. The submission of this Supplemental Information Disclosure Statement is not to be construed as a representation that a search has been made or that no other material information may exist.

The Examiner is requested to initial the enclosed Form PTO-1449 and return a copy thereof to the undersigned.

If for any reason an insufficient fee has been paid, please charge the insufficiency to Deposit Account No. 05-0150.

Respectfully submitted, Richard W. Friesen, et al.

SQUIRE, SANDERS & DEMPSEY L.L.P. 600 Hansen Way

Palo Alto, CA 94304-1043 Telephone (650) 856-6500

Facsimile (650) 843-8777

Marc A. Sockol

Attorney for Applicants

Reg. No. 40,823

CERTIFICATE OF MAILING

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on

Date: 12/2/2003

PaloAlto/62430.1



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SQUIRE, SANDERS & DEMPSEY L.L.P 600 HANSEN WAY PALO ALTO CA 94304-1043 DIRECTOR'S OFFICE TECHNOLOGY CENTER 3600

Paper No. 29

In re Application of FRIESEN ET AL.

Appl. No.: 09/289,550 Filed: April 09, 1999

For: USER INTERFACE FOR AN ELECTRONIC

TRADING SYSTEM

DECISION ON PETITION UNDER 37 CFR 1.59

This is a decision on the petition under 37 CFR 1.59(b), filed November 3, 3003, to expunge information from the above identified application.

The petition is granted.

Petitioner requests that a document entitled AMENDMENT AND RESPONSE, filed September 29, 2003 and received on October 2, 2003 be expunged from the record. Petitioner states that either (A) that the information contains trade secret material, proprietary material and/or material that is subject to a protective order which has not been made public; or (B) that the information submitted was unintentionally submitted and the failure to obtain its return would cause irreparable harm to the party who submitted the information or to the party in interest on whose behalf the information was submitted, and the information has not otherwise been made public. The petition fee set forth in 37 CFR 1.17(h) has been charged to Deposit Account 05-0150.

The information in question has been determined by the undersigned to not be material to the examination of the instant application.

Applicant is required to retain the expunged material(s) for the life of any patent which issues on the above-identified application.

The expunged material has been removed from the official file.

John J. Love, Director Technology Center 3600 (703) 308-1020

Enclosure: Document entitled AMENDMENT AND RESPONSE dated October 2, 2003



UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF MAILING

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being department. States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to Cont P.O. Box 1450, Alexandria, VA 22313-1450, on

Date: November 7, 2003

Examiner:

Art Unit:

Charles Kyle

3624

In Re Application of:

Richard W. Friesen et al.

09/289,550

Filed:

Serial No:

04/09/1999

For:

USER INTERFACE FOR AN

ELECTRONIC TRADING SYSTEM

Commissioner of Patents P.O. Box 1450 Alexandria, VA 22313-1450

RECEIVED NOV 1 8 2003 **GROUP 3600**

AMENDMENT AND RESPONSE

Sir:

In response to the Office Action dated May 7, 2003, please enter the following amendments and consider the following remarks. A three (3) month Petition for Extension of Time is included with this response for extending the response date to November 7, 2003.

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02 FC:1202

144.00 DA

AMENDMENT TO THE CLAIMS

Please amend pending claims 1, 2, 16, 18, 28 and 32 as follows.

1. (Currently Amended) A <u>computer based</u> method for displaying transactional information regarding the buying and selling of items in a system where orders comprise a bid type or an offer type, and an order is generated for a quantity of items at a specific value, the method comprising:

displaying a plurality of bid icons, each corresponding to a bid for a quantity of items, each bid icon at a location along a first axis of values corresponding to the value of the bid, including bids having different values; and displaying a plurality of offer icons, each corresponding to an offer type order for a quantity of items, each offer icon at a location along the first axis of values corresponding to the value of the offer, including offers having different values.

- (Currently amended) The method of claim 1 further comprising:
 providing an order token icon whose size is adjustable by the user to reflect the quantity of the order.
- 3. (Original) The method of claim 2 wherein providing an order icon further comprises: providing an order icon which can be moved to a location corresponding to the value of the order.
- 4. (Original) The method of claim 1 further comprising: receiving a request for an order responsive to a user action specifying a quantity of items and value for the order; and displaying further comprises displaying a requested order icon corresponding to the specified quantity and value information.
- 5. (Original) The method of claim 4 wherein slots are created within which icons are



displayed, the received request for an order is of the bid type, and displaying further comprises displaying a bid icon corresponding to the specified quantity and value information, the method further comprising:

placing the requested bid icon into a slot adjacent a slot containing a bid icon having a value closest to and greater than the value of the bid.

6. (Original) The method of claim 5 further comprising: determining whether the slot currently contains a bid icon; and responsive to determining that the slot contains a bid icon, displacing the bid icon currently within the slot.

7. (Original) The method of claim 5 further comprising:

determining whether the slot contains a currently existing bid icon; responsive to determining the slot contains a currently existing bid icon, determining the value of the currently existing bid icon;

responsive to determining that the currently existing bid icon has a value less than the requested bid icon, displacing the currently existing bid icon from the slot; and

responsive to determining that the currently existing bid icon has a value equal to the value of the requested bid icon, placing the requested bid icon into the slot adjacent the currently existing bid icon within the slot, wherein the order of the bid icons in the slot indicates the order that the bids would be matched against offers.

- 8. (Original) The method of claim 7 in a system in which the first axis is displayed in a vertical direction and the slots are positioned vertically, and wherein placing the requested bid icon further comprises placing the requested bid icon vertically adjacent the currently existing bid icon.
- 9. (Original) The method of claim 4 wherein slots are created within which icons are



displayed, and the received request for an order is of the offer type, displaying further comprises displaying an offer icon corresponding to the specified quantity and value information further comprising:

placing the requested offer icon into a slot adjacent a slot containing an offer icon having a value closest to and less than the value of the offer.

10. (Original) The method of claim 4 in a system in which order icons placed by a user are displayed to the user with a first visual characteristic, and order icons placed by other users are displayed with a second visual characteristic to the user, and wherein displaying an order icon further comprises:

displaying the requested order icon with the first visual characteristic to the user who requested the order; and

displaying the requested order icon with the second visual characteristic to other users.

11. (Original) The method of claim 1 further comprising:
displaying an order icon having an edge which is angled toward the axis of values.

12. (Original) The method of claim 1 further comprising:

receiving a new order for a quantity of items for a specified value; generating an order icon whose size corresponds to the quantity of items bid for; and

placing the order icon at a location along the axis of values corresponding to the specified value of the order.

13. (Original) The method of claim 12 wherein the order is a bid type further comprising: determining whether a currently displayed offer icon is located at the specified value or less than the specified value;

responsive to determining that a currently displayed offer icon is located at the specified value, determining a quantity specified by the currently



displayed offer icon; and

responsive to the quantity of the currently displayed offer icon being equal to the quantity of the bid, removing the currently displayed offer icon.

14. (Original) The method of claim 13 further comprising:

responsive to the quantity of the currently displayed offer icon being less than the quantity of the bid, displaying a bid icon whose size corresponds to the difference between the quantity of the bid and the quantity of the offer.

15. (Original) The method of claim 13 further comprising:

responsive to the quantity of the offer being greater than the quantity of the bid, modifying the display of the offer icon to a size that corresponds to the difference between the quantity of the bid and the quantity of the offer.

16. (Currently Amended) The method of claim 1 further comprising:

receiving a new order for a quantity of items for a specified value; generating an order icon whose size corresponds to the quantity of items for which the offer is made; and

placing the order icon at a location with respect to the <u>first</u> axis of values corresponding to the specified value of the offer.

17. (Original) The method of claim 16 further comprising:

determining whether a currently displayed order icon of the same type as the new order is located at the specified value; and

responsive to determining that a currently displayed order icon of the same type as the new order is located at the specified value, placing the generated order icon adjacent the currently displayed order icon where the displayed order of the offer icons with the same value indicate the order that the offers would be matched against bids.



18. (Currently Amended) The method of claim 1 further comprising the step of:

generating a second axis, perpendicular to the first axis, representing time;

generating a third axis, perpendicular to the second axis, representing value; and
displaying a historical chart representing values of the item responsive to time and
value with respect to the second and third axes.

Claims 19 - 27. (Canceled)

28. (Currently Amended) A <u>computer based</u> method for placing an order for an item at a desired value for a desired quantity in a system in which remote terminals display all outstanding orders for the item wherein orders comprise bids and offers, and a transaction server receives orders transmitted by each remote terminal and communicates the received orders to all remote terminals, comprising:

displaying a plurality of order tokens having different values; receiving a selection for an order token; and

moving the order token to a user specified location with respect to a value axis and a quantity axis which corresponds to the desired value and quantity for the order;

thereby enabling placing of the order in accordance with the desired value and quantity.

Claims 29 - 31. (Canceled)

32. (Currently Amendedl) A <u>computer based</u> method of displaying trading activity of a plurality of traders comprising:

displaying a trading pit;

determining for each trader, an activity level, representative of market transactions of the trader; and

displaying for each trader a token representing the trader at a location in the trading pit which corresponds to the activity level of the trader.



Claims 33 – 58. (Canceled)

Please add new claims 59-69 as follows:

59. (New) A computer based method for placing an order for an item and for displaying transactional information regarding the buying and selling of items in a system where orders comprise a bid type or an offer type, and an order is generated by a user for a quantity of items at a specific value, the method comprising:

displaying an order icon representing the order for a particular quantity of an item; and moving the order icon to a location associated with a value on an axis in response to a user initiated command.

60. (New) The method of claim 59 further comprising:

displaying a plurality of indicators representing bids, each bid indicator being displayed at a location associated with a value on the axis; and

displaying a plurality of indicators representing offers, each ask indicator being displayed at a location associated with a value on the axis.

- 61. (New) The method of claim 60 further comprising visually distinguishing bid indicators from ask indicators.
- 62. (New) The method of claim 60 further comprising visually distinguishing the order icon from the plurality of bid and ask indicators.
- 63. (New) The method of claim 60 further comprising displaying a marker representing a value of interest at a location associated with a value on the axis.
- 64. (New) The method of claim 63 wherein the location at which the marker is displayed is updated dynamically.

- 65. (New) The method of claim 59 wherein the user initiated command comprises selecting the order icon using a pointer device and dragging the order icon to the location.
- 66. (New) The method of claim 59 further comprising modifying the order icon based on a transaction.
- 67. (New) The method of claim 59 wherein the size of the order token is associated with the quantity of the order.
- 68. (New) The method of claim 59 wherein the values on the axis represent price.
- 69. (New) The method of claim 59 wherein the item comprises a commodity.

REMARKS

In the Office Action of May 7, 2003, claims 1-18, 28 and 32 were rejected. Claims 1, 2, 16, 18, 28 and 32 are being amended herein for greater clarity. Claims 59-69 are newly added. No new matter has been added. Upon entry of the foregoing amendments, claims 1-18, 28, 32 and 59 – 69 are pending in the above-identified patent application. Applicants traverse the rejections and respectfully request reconsideration.

Teleconference with the Examiner

Applicant thanks the Examiner for the opportunity to discuss the features and benefits of the invention during the teleconference held on August 8, 2003. The participants discussed the prior art of record and distinguishing features of the claims. Participants discussed some proposed amendments to the claims to further clarify differences between the invention and the prior art. Subsequent to the August 8 teleconference, applicant has come to a better understanding of the prior art that was discussed. In light of this better understanding, applicant does not believe that all of the proposed amendments are necessary to distinguish the prior art. In this response, Applicant is making some amendments to further clarify the claims and providing the remarks below.

Rejection under 35 U.S.C. § 101

On page 2 of the Office Action, the Examiner rejected claims 1-18, 28 and 32 under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Examiner states that, "[t]hey recite no features which place them in the technological arts." Applicant respectfully traverses.

Title 35 U.S.C. § 101 provides:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

As the Supreme Court has held, Congress chose the expansive language of 35 U.S.C. 101 so as to include "anything under the sun that is made by man." <u>Diamond v. Chakrabarty</u>, 447 U.S. 303, 308-09, 206 USPQ 193, 197 (1980). In subsequent decisions, the Federal Circuit has sought to clarify the scope and boundaries of 35 U.S.C. 101, holding that patentability under 35

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U.S.C. 101 requires that the invention must be: (i) directed to statutory subject matter, i.e., the invention must be a machine, manufacture, composition of matter or a process; and (ii) a "useful" invention.

In State Street Bank & Trust Co. v. Signature Financial Group, Inc., 149 F.3d 1368 (Fed. Cir. 1998), the Federal Circuit Court held that in order to meet the utility requirement imposed by 35 U.S.C. § 101, an invention must produce a "useful, concrete and tangible result," State Street, 149 F.3d at 1373, 47 USPQ2d at 1601-02. Applying this test, the State Street Court held that the "transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces 'a useful, concrete and tangible result' -- a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades." State Street, 149 F.3d at 1373, 47 USPQ2d at 1601.

In re Alappat, 33 F.3d 1526 (Fed. Cir. 1994), provides another example of a useful, concrete and tangible result. The Alappat Court held that claims drawn to a rasterizer for converting discrete waveform data samples into anti-aliased pixel illumination intensity data to be displayed on a display means were held to be directed to patentable subject matter since the claims defined "a specific machine to produce a useful, concrete, and tangible result." In re Alappat, 33 F.3d 1526, 1544. Accordingly, computer based systems and software that manipulate financial information (State Street) or display relationships between information representing signal data (Alappat) are sufficiently "real world" to meet the useful, concrete and tangible test enunciated by the State Street Court.

Likewise, in <u>AT&T Corp. v. Excel Comm.</u>, the Court found that claims related to deriving a billing value using a simple Boolean mathematical principle constituted patentable subject matter under 35 U.S.C. § 101. 50 U.S.P.Q.2d 1447, 1451-52 (Fed. Cir. 1999). Thus, as stated by the U.S. Patent and Trademark Office, "an abstract idea when practically applied to produce a useful, concrete and tangible result satisfies Section 101." <u>See, e.g., http://www.uspto.gov/web/menu/pbmethod/trangmaterials.ppt</u>

The Manual of Patent Examining Procedure provides guidance for distinguishing between that which is useful, concrete and tangible and that which is not. The MPEP Version 8,

Section 2106 provides that the "[o]ffice personnel have the burden to establish a prima facie case that the claimed invention as a whole is directed to solely an abstract idea or to manipulation of abstract ideas or does not produce a useful result. Only when the claim is devoid of any limitation to a practical application in the technological arts should it be rejected under 35 U.S.C. 101." (Emphasis added). Having reviewed the law regarding the utility requirement under 35 U.S.C. 101, we next turn to applicant's claims.

The Examiner rejected claims 1-18, 28 and 32, of which claim 1 is representative. Claim 1 as amended recites: "A computer based method for displaying transactional information regarding the buying and selling of items in a system where orders comprise a bid type or an offer type, and an order is generated for a quantity of items at a specific value." Applicant submits that claim 1 meets the statutory subject matter requirement of 35 U.S.C. 101. In particular, claim 1 is directed to a statutory class, i.e. a process or "method," and it recites a specific application, i.e. it is a computer based method for "displaying transactional information regarding the buying and selling of items." This application produces a useful, concrete and tangible result. The display of transactional information is a concrete, tangible result that is useful for, among other things, enabling a trader to "infer that the market is stable, and the value for the item will not be dramatically driven up or down in the near future" (p. 12, ll 2-4) and/or to "anticipate the market and quickly adjust his or her trading plans to take advantage of the information." (p. 12, ll. 11-12). The subject matter of claim 1 therefore satisfies the requirements of Section 101.

Claims 2-18, 28 and 32 likewise satisfy the requirements of Section 101. Claims 2-18 depend from claim 1. Claim 28 recites "a computer based method for placing an order for an item at a desired value for a desired quantity." Claim 32 recites "a computer based method of displaying trading activity of a plurality of traders." Like claim 1, claims 28 and 32 are directed to a statutory class, i.e. a method, and recite a useful, concrete and tangible application, i.e. "placing an order for an item at a desired value for a desired quantity" and "displaying trading activity of a plurality of traders," respectively. Thus, each of the rejected claims meets the statutory subject matter requirements of Section 101.

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Rejection under 35 U.S.C. § 102(b) over

Silverman

On pages 2 through 3 of the Office Action, the Examiner rejected claims 1, 3-9, 12 and 16-17 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,136,501 to Silverman et al. ("Silverman"). Because Silverman fails to show every element recited in the claims, applicant respectfully traverses and requests reconsideration.

For purposes of a comparison with Silverman, Claim 1 may be taken as representative of the rejected claims. Claim 1 calls for a computer based method comprising the steps of "displaying a plurality of bid icons" and "displaying a plurality of offer icons". Claim 1 further calls for such icons being displayed "at a location along a first axis of values". Silverman, at the very least, does not show any of these elements.

Silverman shows a matching system for trading instruments which matches bids and offers for goods subject to credit limits placed upon traders by their trading partners. (Silverman, Abstract). Silverman states that their work provides, "a matching system for trading instruments in which bids are automatically matched against offers for given trading instruments for automatically providing matching transactions in order to complete trades for the given trading instruments." (Silverman, col. 3, 18 – 22). The matching system disclosed by Silverman includes databases that store information regarding orders. (Col. 4, II. 3-39). Silverman discloses using a distributed "book structure" in its system. (Col. 12, II 33-37). Figures 4-5 and 13-18 of Silverman are illustrative diagrams of logical models of a book market. These Figures are referenced in the disclosure of Silverman to help illustrate how the disclosed matching engine operates. The information stored in the databases can be used to generate displays at keystations 24 (shown in Figure 1). (Col. 10, II. 6-9; Col. 11, II. 3-4).

Silverman does not show, much less suggest, any particular computer display or method for displaying information relating to bids or offers. Rather, Silverman only shows a system for matching bids and offers and communicating orders between a central host and keystations. In addition, Figures 4-5 and 13-18 of Silverman do not disclose drawings in which information is being displayed along an "axis." Rather, the drawings are merely logical models that illustrate order quantities arranged from a highest absolute price value to a lowest absolute price value.

TARE VALUE LOWEST - HIGHEST

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Accordingly, independent claim 1 as amended distinguishes over the asserted Silverman '501 patent, at least by reciting any one or more of the steps of "displaying a plurality of bid icons, each corresponding to a bid for a quantity of items, each bid icon at a location along a first axis of values" and "displaying a plurality of offer icons, each corresponding to an offer type order for a quantity of items, each offer icon at a location along the first axis of values."

The remaining claims 3-9, 12 and 16-17 depend ultimately from claim 1, and are patentable over Silverman for at least the same reasons that claim 1 is patentable over Silverman.

Applicants therefore respectfully submit that Silverman fails to anticipate the subject matter of claims 1, 3-9, 12, and 16-17.

Rejections under 35 U.S.C. § 103(a)

On pages 4 through 5 of the Office Action, the Examiner rejected claims 10, 11 and 13-15 under 35 U.S.C. § 103(a) as being obvious over U.S. Patent No. 5,136,501 to Silverman et al. ("Silverman"). On page 5 of the Office Action, the Examiner rejected claim 2 under 35 U.S.C. § 103(a) as being obvious over Silverman in view of U.S. Patent No. 5,619,631 Schott et al. ("Schott"). On pages 5 through 6 of the Office Action, the Examiner rejected claims 28 and 18 under 35 U.S.C. § 103(a) as being obvious over Silverman in view of U.S. Patent No. 6,188,403 to Sacerdoti et al. ("Sacerdoti"). On page 6, the Examiner rejected claim 32 under 35 U.S.C. § 103(a) as being obvious over Silverman in view of the publication entitled "How the Futures Markets Work" by Jake Bernstein, p.62 and figure 5.1 ("Bernstein"). Applicant respectfully traverses each of these obviousness rejections and requests reconsideration.

As discussed above, Silverman does not disclose, teach or suggest various limitations of claim 1. For example, Silverman does not teach, disclose or suggest a display or a method for displaying market information. In addition, none of the other references cited by the Examiner (Schott, Sacerdoti, and Bernstein) teach, suggest or disclose displaying bid or offer icons. Accordingly, applicant respectfully submits that Silverman, alone or in combination with the other references, fails to render obvious any of claims 2, 10, 11, 13-15, 18, 28, 32 and 35.

Claims 2, 10, 11 and 13-15, 18 depend either directly or indirectly from independent claim 1 and are patentable over Silverman for at least the same reasons that claim 1 is patentable over Silverman, both alone and in combination with the other cited references.

In addition, Silverman and Sacerdoti both fail to teach, suggest or otherwise render obvious amended independent claim 28. Silverman does not disclose, teach or suggest a method for placing an order. Furthermore, Silverman does not disclose a method of displaying a plurality of order tokens. Rather, as discussed above with respect to claim 1, Silverman discloses a matching system and does not disclose any particular way to display market information. Furthermore, the illustrative logical models in the Figures of Silverman do not disclose a drawing in which order tokens are in locations with respect to an axis. Accordingly, independent claim 28 distinguishes over Silverman at least by reciting any one or more of the steps of "displaying a plurality of order tokens having different values", "receiving a selection for an order token", and "moving the order token to a user specified location with respect to a value axis and a quantity axis which corresponds to the desired value and quantity for the order." Sacerdoti describes a 3-dimensional graphics generation and display application that can provide visual display of information retrieved from a database. (Abstract). Sacerdoti fails to disclose, teach or suggest a method for placing an order. Sacerdoti similarly fails to disclose, teach or suggest displaying order tokens or icons. According, Applicant respectfully submits that Silverman, alone or in combination with Sacerdoti, does not render claim 28 obvious.

Bernstein describes the layout of the floor of a conventional trading pit. Bernstein fails to disclose, teach or suggest a computer based method of displaying a trading pit. Bernstein further fails to disclose, teach or suggest the "determining for each trader, an activity level, representative of market transactions of the trader," and "displaying for each trader a token representing the trader at a location in the trading pit which corresponds to the activity level of the trader" elements recited by amended claim 32. Accordingly, Applicant respectfully submits that Silverman, alone or in combination with Bernstein, does not render claim 32 obvious.

Therefore, for at least the foregoing reasons, Applicants submit that claims 2, 10, 11, 13-15, 18, 28, 32 and 35 are patentable over the individual and combined references.

New claims 59-69 are presented herewith. No new matter has been added.

In light of the foregoing, applicant submits that the present application is in condition for allowance and notice to that effect is hereby requested.

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If for any reason an insufficient fee has been paid, the Examiner is hereby authorized to charge the insufficiency to Deposit Account No. <u>05-0150</u>. If the Examiner has any questions or needs any additional information, the Examiner is invited to telephone the undersigned attorney at 650-856-6500.

Date: 11/7/03

Squire, Sanders & Dempsey L.L.P. 600 Hansen Way Telephone (650) 856-6500 Facsimile (650) 843-8777 Respectfully submitted,

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PATENT Attorney Docket No.: 36992.00106

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Richard W. Friesen et al.

Examiner:

Charles Kyle

Serial No.:

09/289,550

Art Unit:

3624

Filed:

April 9, 1999

Title:

USER INTERFACE FOR

AN ELECTRONIC TRADING SYSTEM

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT PURSUANT TO 37 CFR §§1.97(c) WITH CERTIFICATION

Sir:

In accordance with the duty of disclosure under 37 CFR §1.56 and pursuant to 37 CFR §\$1.97-1.98, Applicants hereby notify the U.S. Patent and Trademark Office of the references listed on the enclosed Form PTO-1449. One copy of each cited reference is submitted herewith.

The present Supplemental Information Disclosure Statement is being filed after receiving the first office action and before receiving an action closing prosecution on the merits.

Accordingly, as specified in §1.97(e)(1), Applicants' undersigned attorney hereby certifies:

That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in §1.56(c) more than three months prior to the filing of the information disclosure statement.

In re Friesen, et al. U.S. Patent Application No.: 09/289,550 Page 1 of 2 Palo Alto Doc. #61121

PATENT Attorney Docket No.: 36992.00106

The Examiner is requested to make this information of official record in the application. Please initial and return the enclosed Form PTO-1449, indicating that the references have been

The information presented herewith is not to be construed as a representation that: (i) a search has been made; (ii) additional information material to the examination of this application does not exist; (iii) the information, protocols, results and the like reported by third parties are accurate or enabling; or (iv) the above information constitutes prior art to the subject invention.

If for any reason an insufficient fee has been paid, please charge the insufficiency to Deposit Account No. <u>05-0150</u>.

Date: 11/7/03

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considered and made of record herein.

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Respectfully submitted,

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CERTIFICATE OF MAILING

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to the Commissioner for Patents, Washington, D.C. 20231, on

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In re Friesen, et al. U.S. Patent Application No.: 09/289,550

Page 2 of 2 Palo Alto Doc. #61121



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INFORMATION DISCLOSURE Filing Date STATEMENT BY APPLICANT

Complete if Known Application Number 09/289,550 April 9, 1999 First Named Inventor Richard W. Friesen Art Unit 3624

(Use as many sheets as necessary)

Sheet of Examiner Name Kyle, Charles 36992.00106 Attorney Docket Number

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Examiner	Cite	Foreign Patent Document		Name of Patentine or Applicant	Pages, Columns, Lines, Where Relevant			
Initials*	No.3	Country Code ³ - Number ⁴ - Kind Code ⁵	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Passages or Relevant Figures Appear	T ⁶		
		WO 95/26005 A1	09-28-1995	Belzberg, Sydney H.				
		WO 00/52619 A1	09-08-2000	WIT CAPITAL CORPORATION				
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			CLOSURE	Filing Date	April 9, 1999				
STAT	EMENT E	3Y AP	PLICANT	First Named Inventor Richard W. Friesen					
				Art Unit	3624				
	(Use as many s	heets as n	ecessary)	Examiner Name	Charles Kyle P				
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	:	USPTO Presentation regarding The NASDAQ Stock Market, Inc.; dated November 8, 2001; 15 pages.	
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INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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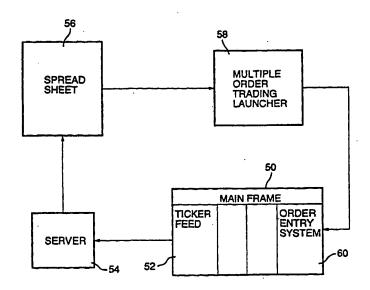
(74) Agent: SHEARN, G., James, M.; Suite 4300, Scotia Plaza, 40 King Street West, Toronto, Ontario M5H 3Y4 (CA).

PCT/CA95/00123 (81) Designated States: AM, AT, AU, BB, BG, BR, BY, CH, CN, signated States: AM, AT, AU, BB, BG, BR, BY, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TT, UA, UG, US, UZ, VN, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG), ARIPO patent (KE, MW, SD, SZ, UG).

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(54) Title: COMPUTERIZED STOCK EXCHANGE TRADING SYSTEM



(57) Abstract

An improvement in computer automated stock exchange trading whereby a graphic user interface with a mouse and display is used to select parameters such as share symbol, price selection, order size, and transaction type, as well as other indicators to launch a trading order to the order entry system of a stock exchange computer. Further improvements include a programmed interface by which data on a group of shares may be read from a spreadsheet formulated into an order and launched automatically or in response to a signal from an operator so as to trade an index or basket of shares substantially instantaneously.

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WO 95/26005 PCT/CA95/00123

COMPUTERIZED STOCK EXCHANGE TRADING SYSTEM

This invention relates to automated means for effecting the purchase and sale of shares traded on a stock exchange. More particularly, it relates to computer software and hardware by which an operator may instantaneously effect the transfer of shares of a large number of corporations.

BACKGROUND:

For many years the trading of shares listed on a stock exchange were effected by the activities of people known as traders on the trading floor of a stock exchange, and were confirmed by some form of notation or writing on paper. Once effected, the trades or transfers of shares were formally reported to brokers for the purchasing and selling customers in a formal way with or without the delivery of the share certificates.

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More recently the transactions have become automated so that trades may be done by a trader operating a keyboard to enter the necessary commands into a terminal connected to the mainframe computer of the stock exchange, or a small personal computer with a terminal emulator. With this automated system a trader may enter an order to buy or sell which is transmitted to the central system of the stock exchange where it matched with another trader who is willing to sell or buy the same shares, and the computer then confirms the completion of the transaction to each trader, and the transaction is confirmed and recorded by means of a hard copy generated on a printer.

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Although this computerized automated system was much faster than the trading floor, it still required a trader to key in by hand the necessary data and commands for each

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individual stock being traded. From the information available at a terminal, the trader/operator would have to input the symbol for the company shares, the price, the exchange, the size of the order, and the instructions to buy, sell, cross or short trade the stock.

It has even become possible to effect trades in certain stocks automatically when they reach a certain price level.

the investment in large groups or "basket" of listed shares as part of an entire portfolio which is strategically selected to provide a balance of growth potential, income generation, and risk avoidance. These portfolios are often held by mutual funds, banks, insurance companies, or other institutional investors, and they are frequently being changed to adjust the balance in the factors which effect growth, income and risks.

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