

PART B - FEE(S) TRANSMITTAL

O.I.P.E.
MAR 03 2006
POSTAL SERVICE

Complete and send this form, together with applicable fee(s), to: Mail

Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571) 273-2885

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

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

7590 12/16/2005

COHEN, PONTANI, LIEBERMAN & PAVANE
 551 Fifth Avenue, Suite 1210
 New York, NY 10176

03/06/2006 HBELETE2 00000019 09893850

01 FC:1501 1400.00 OP
 02 FC:1504 300.00 OP
 03 FC:8001 9.00 OP

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

Certificate of Mailing or Transmission

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

Michael C. Stuart (Depositor's name)
 [Signature] (Signature)
 February 27, 2006 (Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/893,850	06/28/2001	Jonas Bergsten	4925-119	5633

TITLE OF INVENTION: METHOD AND APPARATUS FOR SCROLLABLE CROSS-POINT NAVIGATION IN A USER INTERFACE

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1400	\$300	\$1700	03/16/2006

EXAMINER	ART UNIT	CLASS-SUBCLASS
KE, PENG	2174	715-853000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).
 Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
 "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.
2. For printing on the patent front page, list
 (1) the names of up to 3 registered patent attorneys or agents OR, alternatively,
 (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.
- 1 COHEN, PONTANI,
 2 LIEBERMAN & PAVANE
 3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)
 PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE: Nokia Corporation
 (B) RESIDENCE: (CITY and STATE OR COUNTRY) Espoo, Finland

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

- 4a. The following fee(s) are enclosed:
 Issue Fee
 Publication Fee (No small entity discount permitted)
 Advance Order - # of Copies 3
- 4b. Payment of Fee(s):
 A check in the amount of the fee(s) is enclosed.
 Payment by credit card. Form PTO-2038 is attached.
 The Director is hereby authorized by charge the required fee(s), or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)
 a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

The Director of the USPTO is requested to apply the Issue Fee and Publication Fee (if any) or to re-apply any previously paid issue fee to the application identified above.
 NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature: [Signature]
 Typed or printed name: Michael C. Stuart

Date: February 27, 2006
 Registration No. 35,698

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.

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NOTICE OF ALLOWANCE AND FEE(S) DUE

7590 12/16/2005
COHEN, PONTANI, LIEBERMAN & PAVANE
551 Fifth Avenue, Suite 1210
New York, NY 10176

EXAMINER
KE, PENG

ART UNIT PAPER NUMBER
2174

DATE MAILED: 12/16/2005

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

TITLE OF INVENTION: METHOD AND APPARATUS FOR SCROLLABLE CROSS-POINT NAVIGATION IN A USER INTERFACE

Table with 6 columns: APPLN. TYPE, SMALL ENTITY, ISSUE FEE, PUBLICATION FEE, TOTAL FEE(S) DUE, DATE DUE

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

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE REFLECTS A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE APPLIED IN THIS APPLICATION. THE PTOL-85B (OR AN EQUIVALENT) MUST BE RETURNED WITHIN THIS PERIOD EVEN IF NO FEE IS DUE OR THE APPLICATION WILL BE REGARDED AS ABANDONED.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

- A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.
B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

- A. Pay TOTAL FEE(S) DUE shown above, or
B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL should be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). Even if the fee(s) have already been paid, Part B - Fee(s) Transmittal should be completed and returned. If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted.

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.

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Alexandria, Virginia 22313-1450**
or Fax **(571) 273-2885**

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7590 12/16/2005

COHEN, PONTANI, LIEBERMAN & PAVANE
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_____ (Depositor's name)
_____ (Signature)
_____ (Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/893,850	06/28/2001	Jonas Bergsten	4925-119	5633

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EXAMINER	ART UNIT	CLASS-SUBCLASS
KE, PENG	2174	715-853000

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

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

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

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

<p>4a. The following fee(s) are enclosed:</p> <p><input type="checkbox"/> Issue Fee</p> <p><input type="checkbox"/> Publication Fee (No small entity discount permitted)</p> <p><input type="checkbox"/> Advance Order - # of Copies _____</p>	<p>4b. Payment of Fee(s):</p> <p><input type="checkbox"/> A check in the amount of the fee(s) is enclosed.</p> <p><input type="checkbox"/> Payment by credit card. Form PTO-2038 is attached.</p> <p><input type="checkbox"/> The Director is hereby authorized by charge the required fee(s), or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).</p>
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a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

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Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

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.

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UNITED STATES PATENT AND TRADEMARK OFFICE

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

Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.
Row 1: 09/893,850, 06/28/2001, Jonas Bergsten, 4925-119, 5633
Row 2: 7590, 12/16/2005, COHEN, PONTANI, LIEBERMAN & PAVANE, 551 Fifth Avenue, Suite 1210, New York, NY 10176
Row 3: EXAMINER KE, PENG
Row 4: ART UNIT 2174, PAPER NUMBER

DATE MAILED: 12/16/2005

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 486 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 486 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 (703) 305-8283.

Notice of Allowability	Application No.	Applicant(s)	
	09/893,850	BERGSTEN ET AL.	
	Examiner	Art Unit	
	Peng Ke	2174	

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

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

1. This communication is responsive to 9/19/05.
2. The allowed claim(s) is/are 1-20.
3. 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 the:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

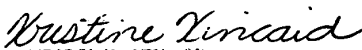
Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) hereto or 2) to Paper No./Mail Date _____.
 - (b) including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none"> 1. <input type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____ 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) 6. <input type="checkbox"/> Interview Summary (PTO-413), Paper No./Mail Date _____ 7. <input type="checkbox"/> Examiner's Amendment/Comment 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____ |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|


 KRISTINE LINCAID
 SUPERVISORY PATENT EXAMINER
 TECHNOLOGY CENTER 1

Detailed Action

This action is response to communication filed 9/19/05

Allowable Subject Matter

Claims 1-20 are allowed.

The following is an examiner's statement of reasons for allowance: The prior art fails to teach panels being arranged into two bars of panels with a common focus panel at the intersection of the two panels, each of the panels being linked to and used to identify one of information entries.

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."


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peng Ke whose telephone number is (571) 272-4062. The examiner can normally be reached on M-Th and Alternate Fridays 8:30-5:00.

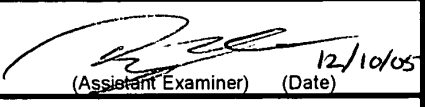
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kristine L. Kincaid can be reached on (571) 272-4063. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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).

Peng Ke

Issue Classification 	Application/Control No.	Applicant(s)/Patent under Reexamination	
	09/893,850	BERGSTEN ET AL.	
	Examiner	Art Unit	
	Peng Ke	2174	

ISSUE CLASSIFICATION										
ORIGINAL				CROSS REFERENCE(S)						
CLASS		SUBCLASS		CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)					
715		853		715	763	725	841	843		
INTERNATIONAL CLASSIFICATION										
G	0	6	F	9/00						
				/						
				/						
				/						
				/						

 (Assistant Examiner) (Date) 12/10/05	<i>Kristine Kincaid</i> KRISTINE KINCAID SUPERVISORY PATENT EXAMINER TECHNOLOGY CENTER 2100 (Primary Examiner) (Date)	Total Claims Allowed: 20 <table border="1" style="width: 100%;"> <tr> <td style="width: 50%;">O.G. Print Claim(s)</td> <td style="width: 50%;">O.G. Print Fig.</td> </tr> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> </tr> </table>	O.G. Print Claim(s)	O.G. Print Fig.	1	2
O.G. Print Claim(s)	O.G. Print Fig.					
1	2					
(Legal Instruments Examiner) (Date)						

<input type="checkbox"/> Claims renumbered in the same order as presented by applicant		<input type="checkbox"/> CPA		<input type="checkbox"/> T.D.		<input type="checkbox"/> R.1.47							
Final	Original	Final	Original	Final	Original	Final	Original						
1	1		31		61		91		121		151		181
2	2		32		62		92		122		152		182
3	3		33		63		93		123		153		183
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6	6		36		66		96		126		156		186
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8	8		38		68		98		128		158		188
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	22		52		82		112		142		172		202
	23		53		83		113		143		173		203
	24		54		84		114		144		174		204
	25		55		85		115		145		175		205
	26		56		86		116		146		176		206
	27		57		87		117		147		177		207
	28		58		88		118		148		178		208
	29		59		89		119		149		179		209
	30		60		90		120		150		180		210

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	1275	(715/853,763,725,841,842,843). CCLS.	US-PGPUB; USPAT; DERWENT	OR	OFF	2005/12/10 16:20
L2	446	1 and menus	US-PGPUB; USPAT; DERWENT	OR	OFF	2005/12/10 16:20
L3	117	2 and vertical and horizontal	US-PGPUB; USPAT; DERWENT	OR	OFF	2005/12/10 16:21
S1	2	("5850220").PN.	US-PGPUB; USPAT; USOCR; DERWENT	OR	OFF	2004/10/08 11:24
S2	2	("5937160").PN.	US-PGPUB; USPAT; USOCR; DERWENT	OR	OFF	2004/10/08 11:24
S3	6	"5850220".URPN.	USPAT	OR	OFF	2004/10/08 11:33
S4	1	"5680535".PN.	USPAT	OR	OFF	2004/10/08 11:33
S5	2	screen\$3 with saver\$3 with calender	US-PGPUB; USPAT; DERWENT	OR	OFF	2004/10/08 11:53
S6	0	(calender with remote with input). ab.ti.	US-PGPUB; USPAT; DERWENT	OR	OFF	2004/10/08 11:40
S7	0	(calender with remote\$3 with input\$3).ab.ti.	US-PGPUB; USPAT; DERWENT	OR	OFF	2004/10/08 11:41
S8	10	(calender with remote\$3).ab.ti.	US-PGPUB; USPAT; DERWENT	OR	OFF	2004/10/08 11:42
S9	2	calender\$3 with remote\$3 with input\$3	US-PGPUB; USPAT; DERWENT	OR	OFF	2004/10/08 11:42
S10	12386	calender\$3.ab.ti. and (remote\$3 with input\$3)	US-PGPUB; USPAT; DERWENT	OR	OFF	2004/10/08 11:43
S11	5	calender.ab.ti. and (remote\$3 with input\$3)	US-PGPUB; USPAT; DERWENT	OR	OFF	2004/10/08 11:44
S12	4	calender.ab.ti. and (internet\$3 with input\$3)	US-PGPUB; USPAT; DERWENT	OR	OFF	2004/10/08 11:46
S13	11	calender.ab.ti. and (remote\$3 with location\$3)	US-PGPUB; USPAT; DERWENT	OR	OFF	2004/10/08 11:47

S14	12386	calender\$3.ab.ti.	US-PGPUB; USPAT; DERWENT	OR	OFF	2004/10/08 11:47
S15	12	calender\$3.ab.ti. and (remote\$3 with location\$3)	US-PGPUB; USPAT; DERWENT	OR	OFF	2004/10/08 11:48
S16	3	calender\$3.ab.ti. and (internet\$3 with location\$3)	US-PGPUB; USPAT; DERWENT	OR	OFF	2004/10/08 11:48
S17	28	"5937160".URPN.	USPAT	OR	OFF	2004/10/08 11:51
S18	0	screen\$3 with saver\$3 with planner	US-PGPUB; USPAT; DERWENT	OR	OFF	2004/10/08 11:53
S19	8	screen\$3 with saver\$3 with plan\$3	US-PGPUB; USPAT; DERWENT	OR	OFF	2004/10/08 11:56
S20	26	(calender\$3 with internet\$3).ab.ti.	US-PGPUB; USPAT; DERWENT	OR	OFF	2004/10/08 11:59
S21	1	("2000257913").PN.	US-PGPUB; USPAT; USOCR; DERWENT	OR	OFF	2004/10/08 14:30
S22	2	("20020055351").PN.	US-PGPUB; USPAT; USOCR; DERWENT	OR	OFF	2004/10/08 18:11
S23	613	emergency with contact with information	US-PGPUB; USPAT; DERWENT	OR	OFF	2005/10/01 15:54
S24	2	S23 and (interface with graphic). ab.ti.	US-PGPUB; USPAT; DERWENT	OR	OFF	2005/10/01 15:57
S25	283	contact with information with time with based	US-PGPUB; USPAT; DERWENT	OR	OFF	2005/10/01 15:58
S26	1	S25 and calendar.ab.ti.	US-PGPUB; USPAT; DERWENT	OR	OFF	2005/10/01 16:05
S27	2	("6507351").PN.	US-PGPUB; USPAT; DERWENT	OR	OFF	2005/10/01 16:05

PATENT APPLICATION FEE DETERMINATION RECORD
Effective October 1, 2000

Application or Docket Number
09/893,860
~~1,122,519~~

CLAIMS AS FILED - PART I

	(Column 1)	(Column 2)
TOTAL CLAIMS	20	
FOR	NUMBER FILED	NUMBER EXTRA
TOTAL CHARGEABLE CLAIMS	20 minus 20 =	0
INDEPENDENT CLAIMS	2 minus 3 =	0
MULTIPLE DEPENDENT CLAIM PRESENT		<input type="checkbox"/>

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

SMALL ENTITY TYPE OR

RATE	FEE
BASIC FEE	355.00
X\$ 9=	
X40=	
+135=	
TOTAL	

OTHER THAN SMALL ENTITY

RATE	FEE
BASIC FEE	710.00
X\$18=	
X80=	
+270=	
TOTAL	110

CLAIMS AS AMENDED - PART II

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total	20	20	=
Independent	2	3	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM			<input type="checkbox"/>

SMALL ENTITY OR

RATE	ADDITIONAL FEE
X\$ 9=	
X40=	
+135=	
TOTAL ADDIT. FEE	

OTHER THAN SMALL ENTITY

RATE	ADDITIONAL FEE
X\$18=	
X80=	
+270=	
TOTAL ADDIT. FEE	

9-19-05

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total	20	20	=
Independent	2	3	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM			<input type="checkbox"/>

RATE	ADDITIONAL FEE
X\$ 9=	
X40=	
+135=	
TOTAL ADDIT. FEE	

RATE	ADDITIONAL FEE
X\$18=	
X80=	
+270=	
TOTAL ADDIT. FEE	

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT C	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
Total			=
Independent			=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM			<input type="checkbox"/>

RATE	ADDITIONAL FEE
X\$ 9=	
X40=	
+135=	
TOTAL ADDIT. FEE	

RATE	ADDITIONAL FEE
X\$18=	
X80=	
+270=	
TOTAL ADDIT. FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
 ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20."
 *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3."
 The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Jonas BERGSTEN et al.

Serial No.: 09/893,850

Filed: June 28, 2001

For: Method and Apparatus for Scrollable Cross-Point Navigation in a User Interface



Examiner: KE, Peng
Group Art: 2174

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on September 15, 2005 (Date of Deposit)

Michael C. Stuart
Name of applicant, assignee or Registered Representative

September 15, 2005
Date of Signature

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

COMMUNICATION

SIR:

In response to the Office Action mailed August 10, 2005, enclosed herewith is a Terminal Disclaimer and a Certificate Under 37 CFR 3.73(b).

In view of the filing of the Terminal Disclaimer, withdrawal of the double patenting rejection and allowance of the application is requested.

Respectfully submitted,

COHEN, PONTANI, LIEBERMAN & PAVANE

By

Michael C. Stuart
Reg. No. 35,698
551 Fifth Avenue, Suite 1210
New York, New York 10176
(212) 687-2770

Dated: September 15, 2005

Handwritten initials and "GP 2174" with a signature.

Attorney Docket # 4925-119

Patent

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Jonas BERGSTEN et al.

Serial No.: 09/893,850

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For: Method and Apparatus for Scrollable Cross-Point Navigation in a User Interface



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I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on
September 15, 2005
(Date of Deposit)

Michael C. Stuart
Name of Applicant, Assignee or Registered Representative
[Signature]
Signature

September 15, 2005
Date of Signature

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

TERMINAL DISCLAIMER

S I R:

Petitioner, Nokia Corporation, is the owner of 100 percent interest in the instant application. Petitioner hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application, which would extend beyond the expiration date of the full statutory term defined in 35 U.S.C. 154 to 156 and 173, as presently shortened by any terminal disclaimer, of U.S. Patent Application No. 09/988,918, November 19, 2001. Petitioner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the prior patent are commonly owned.

09/20/2005 EEKUBAY1 00000009 09893850

01 FC:1814

130.00 0P


This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

The person signing has the authority of Nokia Corporation to sign this document.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further, that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001, Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

A check in the amount of \$130.00 in payment of the terminal disclaimer fee under 37 CFR §1.20(d) is included. Any additional fees or charges required in connection with this application at the present time may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

15 September 2005
Date



Michael C. Stuart
Patent Attorney of Record
Reg. No. 35,698
551 Fifth Avenue, Suite 1210
New York, New York 10176
(212) 687-2770



Attorney Docket # 4925-119

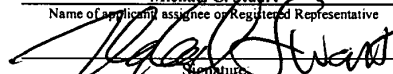
Patent

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of
Jonas BERGSTEN et al.
Serial No.: 09/893,850
Filed: June 28, 2001
For: Method and Apparatus for Scrollable Cross-
Point Navigation in a User Interface

Examiner: KE, Peng
Group Art: 2174

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on
September 15, 2005
(Date of Deposit)

Michael C. Stuart
Name of Applicant, Assignee or Registered Representative

Signature

September 15, 2005
Date of Signature

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

CERTIFICATE UNDER 37 CFR 3.73(b)

Nokia Corporation (Name of Assignee), a Corporation, certifies that it is the assignee of the entire right, title and interest in the patent application identified above by virtue of either:

An assignment from the inventor(s) of the patent application identified above. The assignment was recorded in the Patent and Trademark Office at Reel 012150, Frame 0345.

A copy of the assignment is attached.

The undersigned has reviewed all the documents in the chain of title of the patent application identified above and, to the best of undersigned's knowledge and belief, title is in the assignee identified above.

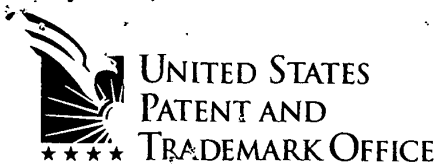
The undersigned is empowered to act on behalf of the assignee.

I hereby declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and further, that these statements are made with the knowledge that willful false statements, and the like so made, are punishable by fine or imprisonment, or both, under Section 1001, of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

15 September 2005
Date



Michael C. Stuart
Patent Attorney of Record
Reg. No. 35,698
551 Fifth Avenue, Suite 1210
New York, New York 10176
(212) 687-2770



COHEN, PONTANI, LIEBERMAN & PAVANE

NOV 30 2001 4025-119

NOVEMBER 20, 2001

Under Secretary of Commerce For Intellectual Property and Director of the United States Patent and Trademark Office

PTAS
COHEN, PONTANI, LIEBERMAN & PAVANE
MICHAEL C. STUART
551 FIFTH AVE., 12TH FLOOR
NEW YORK, NEW YORK 10176

RECEIVED
Washington, DC 20231
www.uspto.gov



101842208A

UNITED STATES PATENT AND TRADEMARK OFFICE
NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT DIVISION, BOX ASSIGNMENTS, CG-4, 1213 JEFFERSON DAVIS HWY, SUITE 320, WASHINGTON, D.C. 20231.

RECORDATION DATE: 09/10/2001

REEL/FRAME: 012150/0345
NUMBER OF PAGES: 3

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:

BERGSTEN, JONAS

DOC DATE: 08/22/2001

ASSIGNOR:

SOKJER, PER

DOC DATE: 08/22/2001

ASSIGNEE:

NOKIA CORPORATION
KEILALAHDENTIE 4
ESPOO, FINLAND FIN-02150

SERIAL NUMBER: 09893850
PATENT NUMBER:

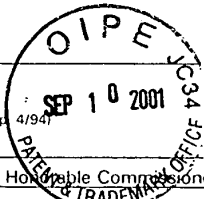
FILING DATE: 06/28/2001
ISSUE DATE:

SHARON LATIMER, EXAMINER
ASSIGNMENT DIVISION
OFFICE OF PUBLIC RECORDS

PONTANI

D#

09-14-2001



101842208

HEET

U.S. DEPARTMENT OF COMMERCE
Patent and Trademark Office
Attorney Docket 4925-119

Form PTO 1595
(Rev. 6-93)
OMB No. 0651-0011 (ext. 4/94)

To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.

1. Name of conveying party(ies):
Jonas BERGSTEN
Per SOKJER
9-10-01

2. Name and address of receiving party(ies):
Name: Nokia Corporation

Internal Address:

Street Address: Keilalahdentie 4

City: Espoo

State/Country: Finland

Zip: FIN-02150

Additional name(s) of conveying party(ies) attached? Yes No

3. Nature of conveyance:
 Assignment Merger
 Security Agreement Change of Name
 Other

Additional name(s) & address(es) attached? Yes No

Execution Date: 8/22/2001

4. Application number(s) or patent number(s):
If this document is being filed together with a new application, the execution date of the application is:

A. Patent Application No.(s)
09/893,850

B. Patent No.(s)
n/a

Additional numbers attached? Yes No

5. Name and address of party to whom correspondence concerning document should be mailed:
Name: Michael C. Stuart
Internal Address: Cohen, Pontani, Lieberman & Pavane
Street Address: 551 Fifth Avenue, 12th Floor
City: New York State: New York Zip: 10176

6. Total number of applications and patents involved: 1

7. Total fee (37 CFR 3.41):.....\$40.00
 Enclosed
 Authorized to be charged to deposit account

8. Deposit account number: 03-2412
(Attach duplicate copy of this page if paying by deposit account)

DO NOT USE THIS SPACE

9. Statement and signature.
To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

Michael C. Stuart
Name of Person Signing
Reg. No. 35,698

Signature

September 5, 2001
Date

Total number of pages including cover sheet, attachments, and document:

3

09/13/2001 6TON11 00000284 09893850
01 FC:581 40.00 P

Mail documents to be recorded with required cover sheet information to:
Assistant Commissioner for Patents
Washington, D.C. 20231

ASSIGNMENT

In consideration of One Dollar (\$1.00), and other good and valuable consideration, the receipt of which is hereby acknowledged, We I the undersigned, **Jonas BERGSTEN, Per SÖKJER** (hereinafter referred to as "ASSIGNOR"):

Hereby sell, assign and transfer to **Nokia Corporation** (hereinafter referred to as "ASSIGNEE"), a corporation of Finland, having a place of business at Keilalahdentie 4, FIN-02150 Espoo, Finland, its successors, assigns and legal representatives, the entire right, title and interest for the United States and all foreign countries, in and to any and all improvements which are disclosed in the application for United States Letters Patent, which has been executed by the undersigned concurrently herewith, and is entitled

METHOD AND APPARATUS FOR SCROLLABLE CROSS-POINT NAVIGATION IN A USER INTERFACE

and in and to said application and all divisional, continuing, substitute, renewal, reissue, and all other applications for Letters Patent which have been or shall be filed in the United States and all foreign countries on any of said improvements; and in and to all original and reissued patents which have been or shall be issued in the United States and all foreign countries on said improvements;

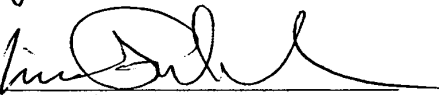
Agree that said Assignee may apply for and receive Letters Patent for said improvements in its own name, and that, when requested, without charge to but at the expense of said Assignee, its successors, assigns and legal representatives, to carry out in good faith the intent and purpose of this assignment, the undersigned will execute all divisional, continuing,


substitute, renewal, reissue, and all other patent applications on any and all said improvements; execute all rightful oaths, assignments, powers of attorney and other papers, communicate to said Assignee, its successors, assigns, and representatives, all facts known to the undersigned relating to said improvements and the history thereof; and generally do everything possible which said Assignee, its successors, assigns or representatives shall consider desirable for aiding in securing and maintaining proper patent protection for said improvements and for vesting title to said improvements and all applications for patents and all patents on said improvements, in said Assignee, its successors, assigns and legal representatives; and

Covenant with said Assignee, its successors, assigns and legal representatives that no assignment, grant, mortgage, license or other agreement affecting the rights and property herein conveyed has been made to others by the undersigned, and that full right to convey the same as herein expressed is possessed by the undersigned.

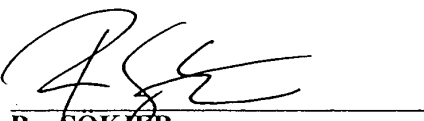
Date: 08/22/01
month/day/year


Jonas BERGSTEN


Witness



Witness

Date: 08/22/01
month/day/year


Per SOKJER


Witness


Witness

Application Number 	Application/Control No. 09/893,850	Applicant(s)/Patent under Reexamination BERGSTEN ET AL.

Document Code - DISQ	Internal Document - DO NOT MAIL
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TERMINAL DISCLAIMER	<input checked="" type="checkbox"/> APPROVED	<input type="checkbox"/> DISAPPROVED
Date Filed : 09/19/05	This patent is subject to a Terminal Disclaimer	

Approved/Disapproved by:
meason

U.S. Patent and Trademark Office



UNITED STATES PATENT AND TRADEMARK OFFICE

BT

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/893,850	06/28/2001	Jonas Bergsten	4925-119	5633

7590 08/10/2005
COHEN, PONTANI, LIEBERMAN & PAVANE
551 Fifth Avenue, Suite 1210
New York, NY 10176

EXAMINER

KE, PENG

ART UNIT PAPER NUMBER

2174

DATE MAILED: 08/10/2005

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

Office Action Summary

Application No. 09/893,850	Applicant(s) BERGSTEN ET AL.	
Examiner Peng Ke	Art Unit 2174	

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

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).

Status

- 1) Responsive to communication(s) filed on 19 May 2005.
- 2a) This action is FINAL.
- 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-20 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-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)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____

RD

DETAILED ACTION

In view of the appeal brief filed on 5/19/05, PROSECUTION IS HEREBY REOPENED.

The reasons are set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Claims 1-20 are pending in this application. Claims 1 and 11 are independent claims.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground

provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-20 provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-78 of copending Application No. 09,988,918. Although the conflicting claims are not identical, they are not patentably distinct from each other because the independent claims 1 and 11 are similar to the independent claims 1 and 40 of Application No. 09,988,918; claim 1 of this application, '850, and the claim 1 of application, '918, both claim the following features:

“organizing a plurality of information entries into a hierarchy comprising a plurality of groups, at least one of which groups having at least one sublevel of subgroups; and displaying panels on a display associated with an electronic device, the panels being arranged into two bars of panels with a common focus panel, each of the panels being linked to and identifying one of (a) one of the plurality of information entries, (b) one of the groups, and (c) one of the subgroups, wherein the focus panel identifies (a) a currently selectable lowest level in the hierarchy and (b) the next higher level, if any, wherein levels, if any, in the hierarchy higher than that displayed in the focus panel are identified in succeeding adjoining panels of a first of the two bars, other panels of the first bar identifying highest level groups in the hierarchy, and wherein panels of the second of the two bars each identify one of (a) information entries, if any, (b)

Art Unit: 2174

groups, if any, and (c) subgroups, if any, of the same level in the hierarchy as the currently selectable lowest level in the hierarchy identified in the focus panel.”

Claim 11 of this application, '850, and claim 40 of application '918, both claim the following features:

“a database storing a plurality of information entries in a hierarchy comprising a plurality of groups, at least one of which groups having at least one sublevel of subgroups; and a means for displaying panels on a display associated with an electronic device, the panels being arranged into two bars of panels with a common focus panel, each of the panels being linked to and identifying one of (a) one of the plurality of information entries, (b) one of the groups, and (c) one of the subgroups, wherein the focus panel identifies (a) a currently selectable lowest level in the hierarchy and (b) the next higher level, if any, wherein levels, if any, in the hierarchy higher than that displayed in the focus panel are identified in succeeding adjoining panels of a first of the two bars, other panels of the first bar identifying highest level groups in the hierarchy, and wherein panels of the second of the two bars each identify one of (a) information entries, if any, (b) groups, if any, and (c) subgroups, if any, of the same level in the hierarchy as the currently selectable lowest level in the hierarchy identified in the focus panel.”

The main difference between the two applications is that application '330's claimed features are embodied in a calendar information display device while this application, '850, is embodied in an electronic device. The Examiner believes that a calendar information display device is substantially the same as an electronic device.

All the dependent claims of the present application have matching similar dependent claims in the co-pending application.

Furthermore, there is no apparent reason why applicant would be prevented from presenting claims corresponding to those of the instant application in the other co-pending application. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP 804.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peng Ke whose telephone number is (571) 272-4062. The examiner can normally be reached on M-Th and Alternate Fridays 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kristine L. Kincaid can be reached on (571) 272-4063. 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).

Peng Ke


KRISTINE KINCAID
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

Index of Claims



Application/Control No.

09/893,850

Examiner

Peng Ke

Applicant(s)/Patent under Reexamination

BERGSTEN ET AL.

Art Unit

2174

✓	Rejected
=	Allowed

-	(Through numeral) Cancelled
+	Restricted

N	Non-Elected
I	Interference

A	Appeal
O	Objected

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Attorney Docket # 4925-119

Patent

IPW
APB

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of
Jonas BERGSTEN et al.
Serial No.: 09/893,850
Filed: June 28, 2001
For: Method and Apparatus for Scrollable Cross-Point
Navigation in a User Interface

Examiner: KE, Peng
Group Art: 2174

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on
May 17, 2005
(Date of Deposit)

Michael C. Stuart
Name of Applicant, assignee or Registered Representative
Michael C. Stuart
Signature

May 17, 2005
Date of Signature

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

APPEAL BRIEF

SIR:

This is an appeal, pursuant to 37 C.F.R. §1.192(a) from the decision of the Examiner in the above-identified application, as set forth in the Final Office Action dated November 18, 2004 wherein the Examiner finally rejected appellant's claims 1-20. The rejected claims are reproduced in the Appendix A attached hereto. A Notice of Appeal was filed on April 8, 2005. This Appeal Brief is being submitted in triplicate.

The fee of \$500.00 for filing an Appeal Brief pursuant to 37 C.F.R. §1.17(f) is submitted herewith. Any additional fees or charges in connection with this application may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

05/20/2005 MAHMED1 00000034 09893850

01 FC:1402

500.00 DP

REAL PARTY IN INTEREST

The assignee, Nokia Corporation, of applicant, Jonas Bergsten et al., is the real party of interest in the above-identified U.S. Patent Application.

RELATED APPEALS AND INTERFERENCES

There are no other appeals and/or interferences related to the above-identified application at the present time.

STATUS OF CLAIMS

Claims 1-20 are pending, have been finally rejected, and are the claims on appeal. No claims have been allowed.

STATUS OF AMENDMENTS

An Amendment was filed on January 14, 2005 subsequent to the Final Office Action of November 18, 2004. That Amendment was entered and considered, as reflected in the Office Action dated March 18, 2005.

SUMMARY OF THE INVENTION

Applicants' invention allows a user to navigate through a multi-level hierarchical structure while at the same time displaying information as to where the user is currently located within that hierarchical structure. The hierarchical structure includes a plurality of information entries organized into a plurality of groups and subgroups of those groups (independent claims 1 and 11, lines 3-5; specification, page 8, line 22 to page 9, line 19). A scrollable cross-point navigation image is displayed in the form of two bars of panels with a common focus panel, each of the panels being linked to and identifying an information entry, a group, or a subgroup (claims 1 and 11, lines 6-9; specification, page 4, lines 13-19; FIGs. 2-9). The focus panel displays the user's

current lowest level in the hierarchical structure, along with a successively higher hierarchical level, if any (independent claims 1 and 11, lines 10-11).

The hierarchical structure can be best illustrated by referring to an example shown in the figures of the application. Referring, for example, to FIG. 3, the highest level of the folder hierarchy is comprised of “FOLDER A”, “FOLDER B”, “FOLDER C”, and “FILM”. The “FILM” folder is comprised of subgroups (or bookmarks) “MUSICAL”, “DOCUMENTARY”, “COMEDY”, “HISTORY”, “ACTION”, and “DRAMA”, as shown in FIG. 4. The “ACTION” subgroup (or bookmark) is comprised of sub-subgroups (or sub-bookmarks) “DIE HARD”, and a number of “SUB BOOKMARKS”, as shown in FIG. 6. The “DIE HARD” sub-subgroup (or sub-bookmark) is comprised of a plurality of lowest level subgroups (or sub-sub-bookmarks), “SUBBOOKMARK 2”.

In the example shown in FIG. 9, the focus panel 30 shows the current lowest level, “SUBBOOKMARK 2” in box 62b (as recited in independent claims 1 and 11, line 10), and the next higher level, “DIE HARD”, (as recited in claims 1 and 11, line 11) as discussed in the specification, page 17, line 16 to page 18, line 8. Levels in the hierarchy that are higher than that displayed in the focus panel, if any, are identified in succeeding adjoining panels of a first bar 34 of the two bars 32, 34, referring in FIG. 9 to “ACTION”, and “FILM” (as recited in independent claims 1 and 11, lines 12-13) Other panels of the first bar 34 identify the highest level groups in the hierarchy (claims 1 and 11, lines 13-14), referring in FIG. 9 to “FOLDER A” and “FOLDER B”. Panels on the second bar 32 of the two bars 32, 34 identify information entries (if any), groups (if any), or subgroups (if any) of the same level in the hierarchy as the currently selectable lowest level in the hierarchy identified in the focus panel (claims 1 and 11, lines 15-17), referring in FIG. 9 to “SUBBOOKMARK 2” (in panel 42), “SUBBOOKMARK 2” (in panel 44), “SUBBOOKMARK 2” (in panel 46), and “SUBBOOKMARK 2” (in panel 48). A currently selected lowest level in the hierarchy identified in the focus panel is changed upon the entry of a navigation command by the user on an input device (independent claims 1 and 11, lines 17-18); compare the focus panels 30 in FIG. 8 and FIG. 9.

ISSUE

1. Whether independent claims 1 and 11, and dependent claims 2, 3, 7-9, 12, 13 and 17-19 are patentable under 35 U.S.C. §102(b) over U.S. Patent No. 5,059,956 (“*Geiser*”)
2. Whether dependent claims 4, 5, 14 and 15 are patentable under 35 U.S.C. §103(a) over *Geiser* in view of U.S. Patent No. 5,677,708 (“*Matthews*”).
3. Whether dependent claims 6, 10, 16 and 20 are patentable under 35 U.S.C. §103(a) in view of *Geiser*.

ARGUMENT

INDEPENDENT METHOD CLAIM 1 AND INDEPENDENT APPARATUS CLAIM 11, AND DEPENDENT METHOD CLAIMS 2-10 AND DEPENDENT APPARATUS CLAIMS 12-20 STAND AND FALL TOGETHER AND ARE PATENTABLE

The Final Office Action takes the position that *Geiser* teaches the claimed method and apparatus for displaying information in a display associated with an electronic device. The Office Action states (pg. 2, ¶ 4) that *Geiser* teaches “a method for displaying information in a display associated with an electronic device comprising organizing a plurality of information entries into a hierarchy comprising a plurality of groups, at least one of which groups have at least one sub-level of sub-groups (sub-sets),” and refers to col. 4, lines 5-8.

The Office Action states that *Geiser* teaches the step of “displaying panels on a display associated with an electronic device, the panels being arranged into two bars of panels with a common focus panel (horizontal and vertical components), each of the panels being linked to and identifying one of (a) the plurality of information entries, (b) one of the groups, and (c) one of the subgroups (selection of destination), wherein the focus panel identifies (a) a currently selectable lowest level in the hierarchy and (b) the next higher level, if any, wherein levels, if any in the hierarchy higher than that displayed in the focus panel are identified in succeeding adjoining panels of a first of the two bars, other panels of the first bar identifying highest level groups in the hierarchy, and wherein panels of the second of the two bars each identify one of (a) information entries if any, (b) group, if any, and (c) subgroups, if any, of the same level in the

hierarchy identified in the focus panel (subsequent selections always limited by preceding letter/subgroups),” citing col. 2, lines 43 thru col. 3, lines 25 of *Geiser* in support thereof.

Geiser discloses a technique for selecting an alphabetic destination name by using a two-dimensional input element (col. 1, lines 55-68; col. 2, lines 43-45). A vertical component of the two-dimensional input element is used to scroll through various letters of the alphabet until a desired letter is selected (col. 2, lines 43-45 and 54-57). The two-dimensional input element is provided in the form of two mutually orthogonal bars (FIGs. 1A-1C). A horizontal bar of the two-dimensional input element is used to scroll through various letter positions from left to right within a word, so as to enable selection of a desired letter position (col. 2, lines 49-54). The name of a destination is spelled out by using a vertical bar of the two-dimensional input element to select an individual letter of the alphabet for each of a plurality of letter positions determined by the horizontal bar. Thus, *Geiser* utilizes two mutually orthogonal bars to select specific letters and letter positions within a word.

Geiser fails to teach or suggest navigation through a hierarchical structure of information containing a plurality of groups and at least one level of subgroups, as recited in independent claims 1 and 11, lines 3-4. *Geiser* discloses only one hierarchical level -- namely, letters, and fails to disclose the use of the subgroups recited in independent claims 1 and 11.

In addition, *Geiser* fails to teach or suggest displaying levels in the hierarchy higher than that displayed in a focus panel in succeeding adjoining panels of a first of two bars, where other panels of the first bar identify the highest level groups in an hierarchy, as recited in claims 1 and 11, lines 11-13. The apparatus disclosed in *Geiser* is capable of displaying only one hierarchical level of items (i.e., items that are alphabetic characters), and is incapable of displaying items from a plurality of hierarchical levels (i.e., menus and sub-menus) on adjoining panels of a first bar.

Geiser also fails to teach or suggest a focus panel that identifies a lowest hierarchical level and a next hierarchical level, as recited in claims 1 and 11, lines 9-10. Instead, *Geiser* merely shows one entry on one level, as shown in FIGS. 1a, 1b and 1c of *Geiser*.

In responding to Applicant’s remarks in the July 12, 2004 Amendment, the Final Office Action takes the position that Webster’s Dictionary defines hierarchy to be a graded or ranked series. The Office Action (pg. 6) states *Geiser* teaches that the set of characters, which a

user can select, is dependent on the previously selected characters, citing col. 3, line 6 thru col. 4, line 10 of *Geiser*. Based on this, the conclusion is reached that in *Geiser* the initially selected characters determine which characters can be selected for the newly selected characters. However, col. 3, lines 3-25 of *Geiser* is directed to limiting the number of selectable letters subsequent to selection of an initial letter, in this case the letter H. Col. 3, lines 26-65 of *Geiser* teaches the use of a vocal output to acknowledge the selection of the letter or number position and the “run-thru” process of the alphabet or a subset thereof. Finally, col. 3, line 66 thru col. 4, line 10 of *Geiser* teaches a sequence that is used to enter two letters. Independent claims 1 and 11 require that the hierarchy comprise a plurality of groups, where at least one of the groups has at least one sublevel of subgroups. *Geiser* fails to teach or suggest navigation through a hierarchal structure of information containing a plurality of groups and at least one level of subgroups. *Geiser* only discloses the use of one hierarchical level, i.e., letters, but does not disclose the use of subgroups.

Moreover, referring to Webster’s dictionary as the Examiner has done is unnecessary, since the specification provides a clear meaning for the claimed hierarchy. The claimed hierarchy is described throughout the specification (see for example, pg. 4, lines 4-7). The claimed hierarchy is also described on pg. 2-3 of the present Appeal Brief. Therefore, the use of Webster’s Dictionary, in this case, is inappropriate.

Matthews teaches an interactive system for displaying a list containing multiple items on a display screen. This reference was introduced as a basis for concluding that it would have been obvious to a person skilled in the art at the time of the invention to combine the teachings of *Geiser* with the step of displaying bars (control objects) on the edge of a display proximate to an edge of the display parallel (border or screens), as taught in *Matthews*, because doing so would arguably improve the *Geiser* system by increasing the amount of usable screen space that would become available. However, the system achieved by the combination of *Geiser* and *Matthews* still fails to achieve the invention recited in independent claims 1 and 11, since *Matthews* is silent with respect to a hierarchal structure of information containing a plurality of groups and at least one level of subgroups, as recited in independent claims 1 and 11.


For the foregoing reasons, it is respectfully submitted that the teachings of *Geiser* fail to establish a *prima facie* case of anticipation and that the teachings of *Geiser* in combination with *Matthews* fail to establish a *prima facie* case of obviousness with regard to the subject matter

recited in independent claims 1 and 11. Dependent claims 2 to 10 and 12 to 20 are patentable for the reasons that independent claims 1 and 11 are patentable. The Final Rejection of claims 1-20 should be reversed.

CONCLUSION

For the foregoing reasons, it is respectfully submitted that appellant's appellants' claims are not rendered obvious anticipated by and are, therefore, patentable over the art of record, and the Examiner's rejections should be reversed.

Respectfully submitted,
COHEN, PONTANI, LIEBERMAN & PAVANE

By 
Michael C. Stuart
Reg. No. 35,698
551 Fifth Avenue, Suite 1210
New York, New York 10176
Tel (212) 687-2770

Dated: May 17, 2005

APPENDIX

1. A method for displaying information in a display associated with an electronic device, comprising:

organizing a plurality of information entries into a hierarchy comprising a plurality of groups, at least one of which groups having at least one sublevel of subgroups; and

displaying panels on a display associated with an electronic device, the panels being arranged into two bars of panels with a common focus panel, each of the panels being linked to and identifying one of (a) one of the plurality of information entries, (b) one of the groups, and (c) one of the subgroups,

wherein the focus panel identifies (a) a currently selectable lowest level in the hierarchy and (b) the next higher level, if any,

wherein levels, if any, in the hierarchy higher than that displayed in the focus panel are identified in succeeding adjoining panels of a first of the two bars, other panels of the first bar identifying highest level groups in the hierarchy, and

wherein panels of the second of the two bars each identify one of (a) information entries, if any, (b) groups, if any, and (c) subgroups, if any, of the same level in the hierarchy as the currently selectable lowest level in the hierarchy identified in the focus panel.

2. The method of claim 1, wherein the two bars are sized and positioned on the display so as to permit viewing of a substantial portion of a background image presented on the display.

3. The method of claim 1, wherein the two bars are perpendicular to one another.

4. The method of claim 3, wherein each of the two bars are positioned on the display to be proximate an edge of the display.

5. The method of claim 3, wherein each of the two bars are positioned on the display to be parallel to an edge of the display.

6. The method of claim 1, wherein the two bars are displayed on the display only upon entry of a command by a user.

7. The method of claim 1, wherein upon entry by the user on an input device of a selecting command, the electronic device performs an action corresponding to an information entry identified in the focus panel.

8. The method of claim 1, wherein a currently selected lowest level in the hierarchy identified in the focus panel is changed upon the entry of a navigation command by the user on an input device.

9. The method of claim 1, wherein information entries, groups, or subgroups linked to the panels are identified on the panels by at least one of text and graphics.

10. The method of claim 1, wherein at least one of the panels is one of semi-transparent and transparent.

11. An apparatus for displaying information in a display associated with an electronic device, comprising:

a database storing a plurality of information entries in a hierarchy comprising a plurality of groups, at least one of which groups having at least one sublevel of subgroups; and

a means for displaying panels on a display associated with an electronic device, the panels being arranged into two bars of panels with a common focus panel, each of the panels being linked to and identifying one of (a) one of the plurality of information entries, (b) one of the groups, and (c) one of the subgroups,

wherein the focus panel identifies (a) a currently selectable lowest level in the hierarchy and (b) the next higher level, if any,

wherein levels, if any, in the hierarchy higher than that displayed in the focus panel are identified in succeeding adjoining panels of a first of the two bars, other panels of the first bar identifying highest level groups in the hierarchy, and

wherein panels of the second of the two bars each identify one of (a) information entries, if any, (b) groups, if any, and (c) subgroups, if any, of the same level in the hierarchy as the currently selectable lowest level in the hierarchy identified in the focus panel.

12. The apparatus of claim 11, wherein the two bars are sized and positioned on the display so as to permit viewing of a substantial portion of a background image presented on the display.

13. The apparatus of claim 11, wherein the two bars are perpendicular to one another.

14. The apparatus of claim 13, wherein each of the two bars are positioned on the display to be proximate an edge of the display.

15. The apparatus of claim 13, wherein each of the two bars are positioned on the display to be parallel to an edge of the display.

16. The apparatus of claim 11, wherein the two bars are displayed on the display only upon entry of a command by a user.

17. The apparatus of claim 11, wherein upon entry by the user on an input device of a selecting command, the electronic device performs an action corresponding to an information entry identified in the focus panel.

18. The apparatus of claim 11, wherein a currently selected lowest level in the hierarchy identified in the focus panel is changed upon the entry of a navigation command by the user on an input device.

19. The apparatus of claim 11, wherein information entries, groups, or subgroups linked to the panels are identified on the panels by at least one of text and graphics.

20. The apparatus of claim 11, wherein at least one of the panels is one of semi-transparent and transparent.



AT / ZPW

Attorney Docket # 4925-119

Patent

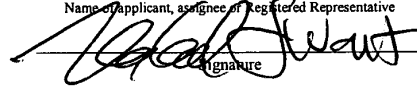
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of
 Jonas BERGSTEN et al.
 Serial No.: 09/893,850
 Filed: June 28, 2001
 For: Method and Apparatus for Scrollable Cross-Point
 Navigation in a User Interface

Examiner: KE, Peng
Group Art: 2174

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on

April 8, 2005
(Date of Deposit)

Michael C. Stuart
Name of Applicant, assignee or Registered Representative

Signature

April 8, 2005
Date of Signature

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

NOTICE OF APPEAL FROM THE PRIMARY EXAMINER
TO THE BOARD OF PATENT APPEALS AND INTERFERENCES

SIR:

Applicants hereby appeal to the Board of Patent Appeals and Interferences from the decision dated November 18, 2004 of the Primary Examiner twice or finally rejecting claims 1-20.

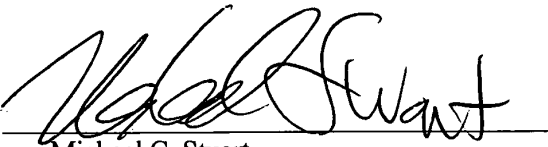
1. The time for response to the Office Action of November 18, 2004 expires on March 18, 2005.
2. Applicants hereby request a one-month extension of the original shortened statutory response period set in the Office Action of November 18, 2004 extended until March 18, 2005 by the Advisory Action dated March 18, 2005. Payment in the amount of \$120 of the government fee for an extension of time is enclosed herewith.
3. Check for payment of the appeal fee of \$500.00 is enclosed herewith.

04/12/2005 EFLORES 00000019 09893850

01 FC:1401 500.00 OP
02 FC:1251 120.00 OP

4. Charge any additional fees required, for example, for lodging this appeal or for filing the Appeal Brief, not otherwise paid by check, to Deposit Account No. 03-2412. A duplicate copy of this sheet is enclosed.

Respectfully submitted,
COHEN, PONTANI, LIEBERMAN & PAVANE

By 
Michael C. Stuart
Reg. No. 35,698
551 Fifth Avenue
New York, New York 10176
(212) 687-2770

Dated: April 8, 2005



AT / JFW

Attorney Docket # 4925-119

Patent

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Name of Applicant, assignee or Registered Representative

April 8, 2005
Date of Signature

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

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Applicants hereby appeal to the Board of Patent Appeals and Interferences from the

04/27/2005 EWARREN, 00000001 032412 09893850
01 FC:1251 120.00 DA
decision dated November 18, 2004

of the Primary Examiner twice or finally rejecting claims 1-20.

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3. Check for payment of the appeal fee of \$500.00 is enclosed herewith.

4/12/2005 EFLORES 00000019 09893850

1 FC:1401 500.00 OP
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/893,850	06/28/2001	Jonas Bergsten	4925-119	5633

7590 03/18/2005
COHEN, PONTANI, LIEBERMAN & PAVANE
551 Fifth Avenue, Suite 1210
New York, NY 10176

EXAMINER

KE, PENG

ART UNIT PAPER NUMBER

2174

DATE MAILED: 03/18/2005

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. 09/893,850	Applicant(s) BERGSTEN ET AL.	
	Examiner Peng Ke	Art Unit 2174	

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

THE REPLY FILED 18 January 2004 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. The reply was filed after a final rejection, but prior to 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 expires _____ months 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 reply was filed after the date of filing a Notice of Appeal, but prior to the date of filing an appeal brief. 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 not 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)).

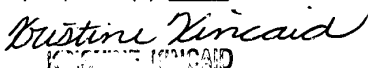
4. The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. Applicant's reply has overcome the following rejection(s): _____.
6. Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment 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 not 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 not be entered because the affidavit or other evidence failed to overcome all 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:
See Continuation Sheet.
12. Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). _____
13. Other: _____.


 KRISTINE VINCAID
 SUPERVISOR, APPELLATE EXAMINER
 TECHNOLOGICAL CENTER

Continuation of 11. does NOT place the application in condition for allowance because: Applicant's argument focused on the following:

- 1) Geiser fails to disclose a navigation that uses subgroups of a hierarchy.
- 1) Examiner disagrees. During patent examination, the pending claims must be "given *their< broadest reasonable interpretation consistent with the specification." > In re Hyatt, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See In re Van Geuns, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Applicant always has the opportunity to amend the claims during prosecution, and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. In re Prater, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-51 (CCPA 1969)

In this case, the claims recites "identifying ... one of the subgroup", and Geiser teaches this limitation because preceding characters is a subgroup of the whole character. (col. 2, lines 43-col 3, lines 25) .

PATENT APPLICATION FEE DETERMINATION RECORD
Effective October 1, 2000

Application or Docket Number

09/893,850

~~1,225,119~~

CLAIMS AS FILED - PART I

	(Column 1)	(Column 2)
TOTAL CLAIMS	20	
FOR	NUMBER FILED	NUMBER EXTRA
TOTAL CHARGEABLE CLAIMS	20 minus 20 = 0	
INDEPENDENT CLAIMS	2 minus 3 = 0	
MULTIPLE DEPENDENT CLAIM PRESENT	<input type="checkbox"/>	

SMALL ENTITY TYPE

OR OTHER THAN SMALL ENTITY

RATE	FEE
BASIC FEE	355.00
X\$ 9=	
X40=	
+135=	
TOTAL	

RATE	FEE
BASIC FEE	710.00
X\$18=	
X80=	
+270=	
TOTAL	110

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

CLAIMS AS AMENDED - PART II

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total	20 Minus 20	=
	Independent	2 Minus 3	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <input type="checkbox"/>			

SMALL ENTITY

OR OTHER THAN SMALL ENTITY

RATE	ADDITIONAL FEE
X\$ 9=	
X40=	
+135=	
TOTAL ADDIT. FEE	

RATE	ADDITIONAL FEE
X\$18=	
X80=	
+270=	
TOTAL ADDIT. FEE	

	(Column 1)	(Column 2)	(Column 3)
AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total	20 Minus 20	=
	Independent	2 Minus 3	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <input type="checkbox"/>			

RATE	ADDITIONAL FEE
X\$ 9=	
X40=	
+135=	
TOTAL ADDIT. FEE	

RATE	ADDITIONAL FEE
X\$18=	
X80=	
+270=	
TOTAL ADDIT. FEE	

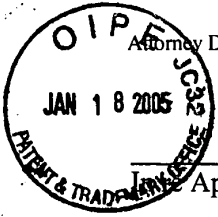
	(Column 1)	(Column 2)	(Column 3)
AMENDMENT C	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total		=
	Independent		=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <input type="checkbox"/>			

RATE	ADDITIONAL FEE
X\$ 9=	
X40=	
+135=	
TOTAL ADDIT. FEE	

RATE	ADDITIONAL FEE
X\$18=	
X80=	
+270=	
TOTAL ADDIT. FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
 ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20."
 *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3."
 The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

AF *IM*



Attorney Docket # 4925-119

MS-AF

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of
Jonas BERGSTEN et al.
Serial No.: 09/893,850
Filed: June 28, 2001
For: Method and Apparatus for Scrollable Cross-Point
Navigation in a User Interface

Examiner: Peng KE
Group Art: 2174

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on

January 14, 2005
(Date of Deposit)

Michael C. Stuart
Name of Applicant, Inventor or Registered Representative
Michael C. Stuart
Signature

January 14, 2005
Date of Signature

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

RESPONSE AND REQUEST FOR RECONSIDERATION
AFTER FINAL REJECTION

SIR:

In response to the Final Office Action dated November 18, 2004, please amend the above-identified application as follows:

Amendments to the Drawings, beginning on page 2 of this paper, include a replacement sheet and a marked up sheet transmitted herewith.

Remarks begin on page 3 of this paper.

AMENDMENTS TO THE DRAWINGS:

Please substitute new sheet of drawing numbered 2/9 and including FIG. 2 for the drawing sheet numbered 2/9 presently on file and including FIG. 2.

When the formal drawings were filed, there was a typographical error: "NEED INTO FOCUS" should have been "FEED INTO FOCUS", as reflected in the informal drawings that were published in U.S. Patent Application Publication No. 2003/0001907. This error has been corrected in the attached "Replacement Sheet" drawing. A version of this sheet with the error and identifying the error in red is also attached.

No other changes have been made, and no new matter has been added.

REMARKS

The present Response is filed within two months of the mailing date of the Examiner's final action. Accordingly, claims 1 to 20 are pending, with claims 1 and 11 being the only independent claims. None of the claims have been amended so this Response raises no new issues for further consideration or search.

One sheet of the formal drawings submitted on June 4, 2002 has been amended to correct a typographical error, as discussed above.

The Office Action mailed on November 18, 2004 has been reviewed and carefully considered. Independent claims 1 and 11 and dependent claims 2, 3, 7-9, 12, 13, and 17-19 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,059,965 (Geiser). Dependent claims 4, 5, 14, and 15 were rejected under 35 U.S.C. §103(a) as being unpatentable over Geiser in view of U.S. Patent No. 5,677,708 (Matthews). Dependent claims 6, 10, 16, and 20 were rejected under 35 U.S.C. §103(a) as being unpatentable over Geiser. In view of the following Remarks, reconsideration and withdrawal of the aforementioned rejections are respectfully requested.

Applicants' invention allows a user to navigate through a multi-level hierarchical structure while at the same time displaying information as to where the user is currently located within that hierarchical structure. The hierarchical structure includes a plurality of information entries organized into a plurality of groups and subgroups of those groups (claims 1 and 11, lines 3-4; specification, page 8, line 22 to page 9, line 19). A scrollable cross-point navigation image is displayed in the form of two bars of panels with a common focus panel, each of the panels being linked to and identifying an information entry, a group, or a subgroup (claims 1 and 11, lines 5-8; specification, page 4, lines 13-19; FIGs. 2-9). The focus panel displays the user's current lowest level in the hierarchical structure, along with a successively higher hierarchical level, if any (claim 1, lines 9-10; claim 11, lines 9-10). The hierarchical structure can be best illustrated by referring to an example shown in the figures of the application. Referring, for example, to FIG. 3, the highest level of the folder hierarchy is comprised of "FOLDER A", "FOLDER B", "FOLDER C", and "FILM". The "FILM" folder is comprised of subgroups (or bookmarks) "MUSICAL", "DOCUMENTARY", "COMEDY", "HISTORY", "ACTION", and "DRAMA", as shown in FIG. 4. The "ACTION" subgroup (or bookmark) is comprised of sub-subgroups (or sub-bookmarks) "DIE HARD", and a number of "SUB BOOKMARKS", as shown in FIG. 6. The "DIE HARD"

sub-subgroup (or sub-bookmark) is comprised of a plurality of lowest level subgroups (or sub-sub-bookmarks), "SUBBOOKMARK 2". In the example shown in FIG. 9, the focus panel 30 shows the current lowest level, "SUBBOOKMARK 2" in box 62b (as recited in claims 1 and 11, line 9), and the next higher level, "DIE HARD", (as recited in claims 1 and 11, line 10) as discussed in the specification, page 17, line 16 to page 18, line 8. Levels in the hierarchy that are higher than that displayed in the focus panel, if any, are identified in succeeding adjoining panels of a first bar 34 of the two bars 32, 34, referring in FIG. 9 to "ACTION", and "FILM" (as recited in claims 1 and 11, lines 11-12). Other panels of the first bar 34 identify the highest level groups in the hierarchy (claims 1 and 11, lines 12-13), referring in FIG. 9 to "FOLDER A" and "FOLDER B". Panels on the second bar 32 of the two bars 32, 34 identify information entries (if any), groups (if any), or subgroups (if any) of the same level in the hierarchy as the currently selectable lowest level in the hierarchy identified in the focus panel (claims 1 and 11, lines 14-16), referring in FIG. 9 to "SUBBOOKMARK 2" (in panel 42), "SUBBOOKMARK 2" (in panel 44), "SUBBOOKMARK 2" (in panel 46), and "SUBBOOKMARK 2" (in panel 48). A currently selected lowest level in the hierarchy identified in the focus panel is changed upon the entry of a navigation command by the user on an input device (claims 1 and 11, lines 17-18); compare the focus panels 30 in FIG. 8 and FIG. 9.

Independent claims 1 and 11 only stand rejected under 35 U.S.C. §102(b) as being anticipated by Geiser. No other rejections are pending with respect to independent claims 1 and 11.

Geiser discloses a technique for selecting an alphabetic destination name by using a two-dimensional input element (col. 1, lines 55-68; col. 2, lines 43-45). A vertical component of the two-dimensional input element is used to scroll through various letters of the alphabet until a desired letter is selected (col. 2, lines 43-45 and 54-57). The two-dimensional input element is provided in the form of two mutually orthogonal bars (FIGs. 1A-1C). A horizontal bar of the two-dimensional input element is used to scroll through various letter positions from left to right within a word, so as to enable selection of a desired letter position (col. 2, lines 49-54). The name of a destination is spelled out by using a vertical bar of the two-dimensional input element to select an individual letter of the alphabet for each of a plurality of letter positions determined by the horizontal bar. Thus, Geiser utilizes two mutually orthogonal bars to select specific letters and letter positions within a word.

Geiser neither discloses nor suggests navigation through a hierarchical structure of information containing a plurality of groups and at least one level of subgroups, as recited in independent claims 1 and 11, lines 3-4. Geiser provides only one hierarchical level -- namely, letters, and does not disclose use of subgroups.

In addition, Geiser does not disclose or suggest displaying levels in the hierarchy higher than that displayed in the focus panel in succeeding adjoining panels of a first of the two bars, other panels of the first bar identifying highest level groups in the hierarchy, as recited in claims 1 and 11, lines 11-13. The Geiser apparatus is capable of displaying only one hierarchical level of items (i.e., items that are alphabetic characters), and is incapable of displaying items from a plurality of hierarchical levels (i.e., menus and sub-menus) on adjoining panels of a first bar.

Geiser also does not disclose or suggest a focus panel that identifies a lowest hierarchical level and a next hierarchical level, as recited in claims 1 and 11, lines 9-10. Instead, Geiser merely show one entry on one level, as shown in Geiser's FIGS. 1a, 1b and 1c.

For these reasons, Geiser does not disclose or suggest the invention recited in independent claims 1 and 11. Since no other rejections are pending with respect to independent claims 1 and 11, it is submitted that these claims are patentable. Dependent claims 2 to 10 and 12 to 20 are patentable for the reasons that independent claims 1 and 11 are patentable.

With respect to dependent claims 2 and 12, the Examiner asserted that Geiser describes "two bars...sized and positioned on the display so as to permit viewing of a substantial portion of a background image presented on the display". Actually, Geiser is directed to a navigational system which provides a minimal distracting effect such that it can be used while driving (col. 1, lines 55-58). The driver is able to focus on driving without looking at the display of the navigational system because the system provides a vocal output (col. 2, lines 26-30). Geiser does not display a user interface on a windscreen. By contrast, applicants' invention as recited in claims 2 and 12 provides a display with a user interface of two bars and a background image. The two bars are positioned so that they will not disturb the background image. For these additional reasons, dependent claims 2 and 12 are patentable.

With respect to dependent claims 7 and 17, the Examiner incorrectly alleged that Geiser describes a feature set forth in claims 7 and 17 which provides that "upon entry by the user on an input device of a selecting command, the electronic device performs an action corresponding to an information entry identified in the focus panel". As stated above, Geiser does not include a focus

panel formed by an intersection of two panels. For these additional reasons, dependent claims 7 and 17 are patentable.

With respect to dependent claims 8 and 18, Geiser does not disclose or suggest that a currently selected lowest level in the hierarchy identified in the focus panel is changed upon the entry of a navigation command by the user on an input device. This aspect is shown, for example, by comparing the focus panel 30 in FIGS. 8 and 9 of the present application. For this additional reason, dependent claims 8 and 18 are patentable.

Applicants respectfully submit that this application is in condition for allowance, and such action is respectfully requested.

Although no fee is believed to be due at this time, any fees or charges required in connection with the present application may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

Respectfully submitted,

COHEN, PONTANI, LIEBERMAN & PAVANE

By 

Michael C. Stuart
Reg. No. 35,698
551 Fifth Avenue, Suite 1210
New York, New York 10176
(212) 687-2770

Dated: January 14, 2005

SHEET SHOWING ERROR
BEING CORRECTED

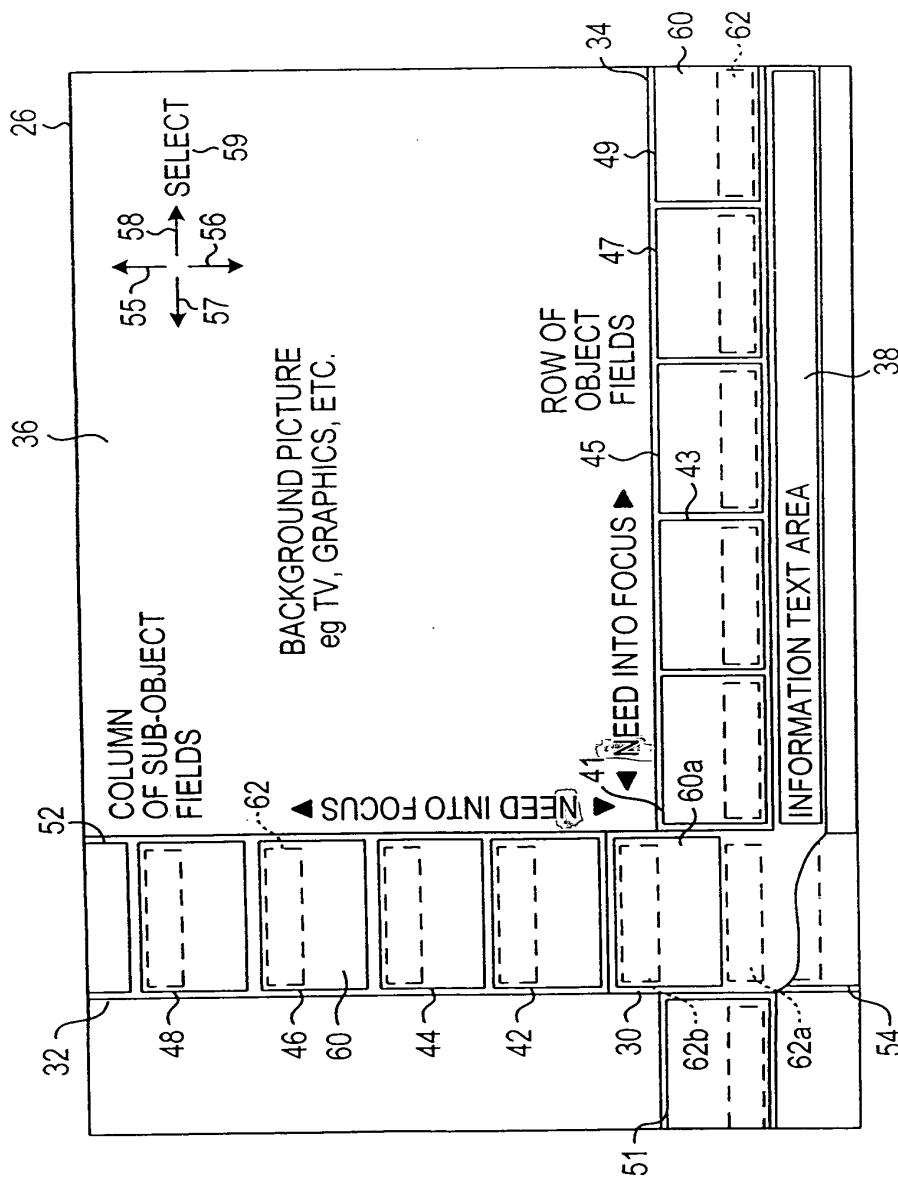
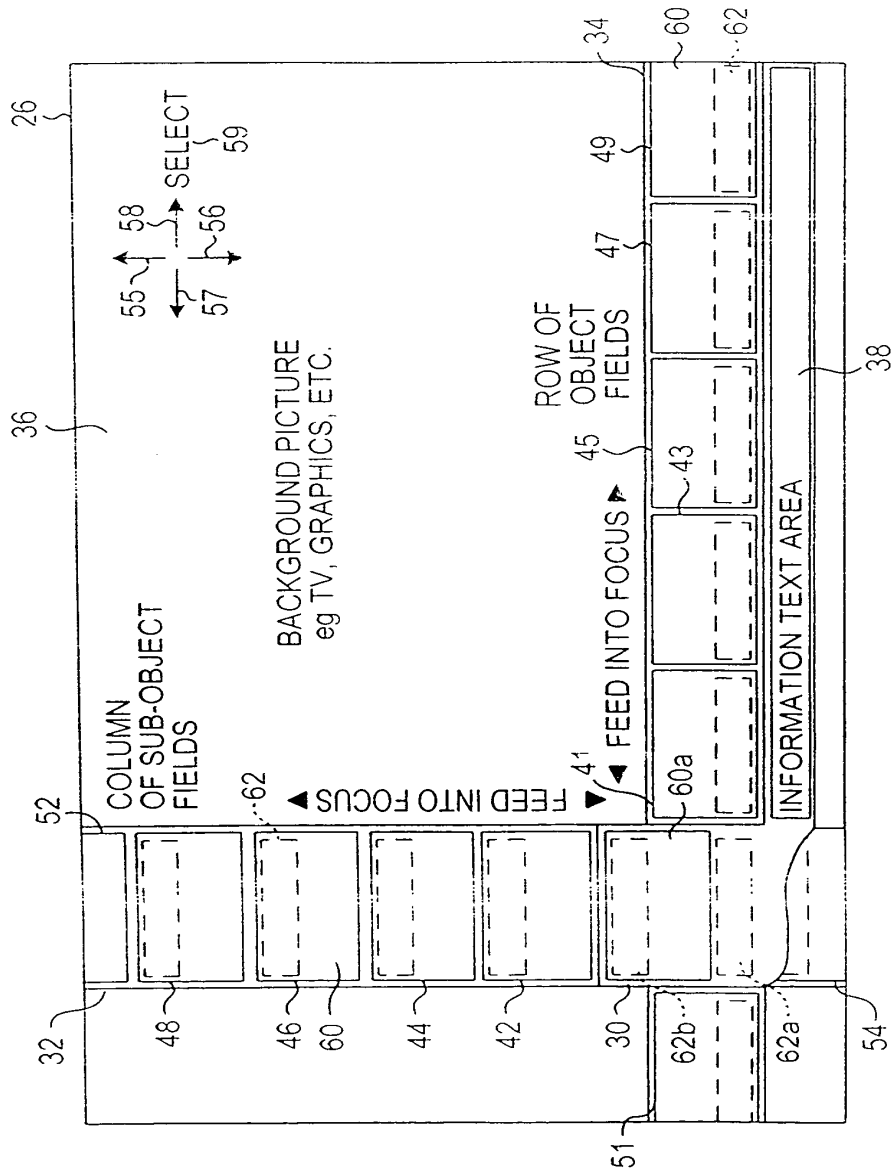


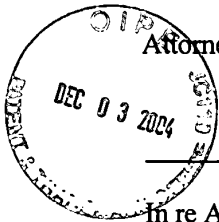
FIG. 2



2174\$

Patent

Handwritten initials



Attorney Docket # 4925-119

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Examiner: Narayanaswamy, Sindya
Group Art: 2174

In re Application of

Jonas BERGSTEN et al.

Serial No.: 09/893,850

Filed: June 28, 2001

For: Method and Apparatus for Scrollable Cross-Point
Navigation in a User Interface

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on

December 1, 2004
(Date of Deposit)

Michael C. Stuart
Name of applicant, assignee or Registered Representative

Handwritten signature of Michael C. Stuart

December 1, 2004
Date of Signature

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

INFORMATION DISCLOSURE STATEMENT

S I R:

In compliance with the duty of disclosure under 37 C.F.R. § 1.56 and in accordance with the practice under 37 C.F.R. §§ 1.97 and 1.98, the Examiner's attention is directed to the documents listed on the enclosed Form PTO/SB/08a. Copies of the listed documents are also enclosed.

In addition, the following pending U.S. Patent applications (which are assigned to the same assignee of the present application) have claims that bear some similarity to the claims pending in the present application:

- Serial No.
- 09/891,330
- 09/959,127
- 09/985,307
- 09/988,918
- 10/186,435
- 10/311,894
- 10/442,487
- 10/645,016

12/06/2004 DENMANU1 00000047 09893850

01 FC:1806

180.00 OP


One or more Office Actions have issued in the above listed cases, and various prior art references have been cited against the pending claims in those applications. It is requested that the Examiner review the files of the above identified applications for information material to the claims pending herein.

It is respectfully requested that the above information be considered by the Examiner and that the copy of the enclosed Form PTO/SB/08a be returned indicating that such information has been considered.

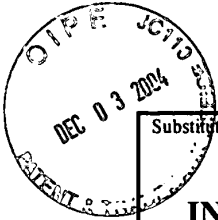
In accordance with 37 C.F.R §§1.97(g) and (h), the filing of this Information Disclosure Statement should not be construed as a representation that a search has been made or that information cited is, or is considered to be, material to patentability as defined in §1.56(b), or that any cited document listed or attached is (or constitutes) prior art. Unless otherwise indicated, the date of publication indicated for an item is taken from the face of the item and Applicant(s) reserve(s) the right to prove that the date of publication is in fact different.

A check is enclosed herewith in the amount of \$180 in payment of the government fee for filing this Information Disclosure Statement after issuance of a non-final Office Action. Any additional fees or charges required at this time in connection with the application may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

Respectfully submitted,
COHEN, PONTANI, LIEBERMAN & PAVANE

By: 
Michael C. Stuart
Reg. No. 35,698
551 Fifth Avenue, Suite 1210
New York, New York 10176
(212) 687-2770

Dated: December 1, 2004



Substitute for Form 1449/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)		Application Number	09/893,850
		Filing Date	June 28, 2001
		First Named Inventor	Jonas BERGSTEN
		Art Unit	2174
		Examiner Name	Narayanaswamy, Sindya
		Attorney Docket Number	4925-119
Sheet	1 of 1		

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind-Code ² (if known)			
		US-6,538,672			
		US-6,236,396			
		US-6,323,883			
		US-09/891,330			
		US-09/959,127			
		US-09/985,307			
		US-09/988,918			
		US-10/186,435			
		US-10/311,894			
		US-10/442,487			
		US-10/645,016			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ -Number ⁴ -Kind-Code ⁵ (if known)				



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www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/893,850	06/28/2001	Jonas Bergsten	4925-119	5633
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7590 11/18/2004
COHEN, PONTANI, LIEBERMAN & PAVANE
 551 Fifth Avenue, Suite 1210
 New York, NY 10176

EXAMINER

KE, PENG

ART UNIT	PAPER NUMBER
----------	--------------

2174

DATE MAILED: 11/18/2004

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

Office Action Summary	Application No. 09/893,850	Applicant(s) BERGSTEN ET AL.	
	Examiner Peng Ke	Art Unit 2174	

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

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).

Status

- 1) Responsive to communication(s) filed on 12 July 2004.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-20 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-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) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is responsive to communications: Amendment, filed on 7/12/04.

This action is final.

2. Claims 1-20 are pending in this application

3. Applicant's failure to adequately traverse the Examiner's taking of Official Notice in the last office action is taken as an admission of the fact(s) noticed.

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.

4. Claims 1-3, 7-9, 11-13 and 17-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Geiser, US- 5,059,965.

As per claim 1, Geiser teaches a method for displaying information in a display associated with an electronic device comprising: organizing a plurality of information entries into a hierarchy comprising a plurality of groups, at least one of which groups have at least one sub-level of sub-groups (subsets) (col. 4, lines 5-8); and

displaying panels on a display associated with an electronic device, the panels being arranged into two bars of panels with a common focus panel (horizontal and vertical components), each of the panels being linked to and identifying one of (a) the plurality of information entries, (b) one of the groups, and (c) one of the subgroups (selection of destination),

Art Unit: 2174

wherein the focus panel identifies (a) a currently selectable lowest level in the hierarchy and (b) the next higher level, if any, wherein levels, if any in the hierarchy higher than that displayed in the focus panel are identified in succeeding adjoining panels of a first of the two bars, other panels of the first bar identifying highest level groups in the hierarchy, and wherein panels of the second of the two bars each identify one of (a) information entries if any, (b) groups, if any, and (c) subgroups, if any, of the same level in the hierarchy as the currently selectable lowest level in the hierarchy identified in the focus panel (subsequent selections always limited by the preceding letter/subgroups) (col. 2, line 43-col. 3, line 25).

As per claim 2, Geiser teaches the method wherein the two bars are sized and positioned on the display so as to permit viewing of a substantial portion of a background image presented on the display (navigation system that minimizes distracting effect, and allows simultaneous driving) (col. 1, lines 55-58).

As per claim 3, Geiser teaches the method wherein the two bars are perpendicular to one another (Fig. 1 a-1c, col. 4, lines 51-61) (the two components are arranged in a perpendicular fashion).

As per claim 7, Geiser teaches the method wherein upon entry by the user on an input device of a selecting command, the electronic device performs an action corresponding to an information entry identified in the focus panel (destination name is shown on optical display as U response action) (col. 5, lines 7-10).

As per claim 8, Geiser teaches the method wherein a currently selected lowest level in the hierarchy identified in the focus panel is changed upon the entry of a navigation command by the user on an input device (upon letter selection level is changed) (Fig. 1a-1c, col. 3, lines 4-12).

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As per claim 9, Geiser teaches the method wherein information entries, groups, or subgroups linked to the panels are identified on the panels by at least one of text and graphics (subgroups of letters) (Fig. 1a-1c).

As per claims 11-13 and 17-19, they are the apparatus claims of claims 1-3 and 7-9 and are rejected on the same basis.

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 negated by the manner in which the invention was made.

5. Claims 4, 5, 14 and 15 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Geiser, US 5,059,965 in view of Matthews et al (hereinafter Matthews), US- 5,677,708.

As per claims 4 and 5, Geiser does not teach the method wherein each of the two bars are positioned on the display to be proximate to and parallel to an edge of the display. However, Matthews teaches the method of displaying bars (control objects) on the display proximate to an edge of the display parallel (borders of screens). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Geiser with Matthews step of displaying objects on the edge of the screen because it would improve Geiser's system by increasing the amount of usable screen space that is available.

As per claims 14 and 15, they are the apparatus claims of claims 4 and 5 and are therefore rejected on the same basis.

6. Claims 6, 10, 16 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Geiser, US 5,059,965

As per claim 6, Geiser does not teach the method wherein the two bars are displayed on the display only upon entry of a command by a user. However, Official Notice is taken that display upon selection is well known in the art and that it would have been obvious to one of ordinary skill in the art at the time of the invention to enhance Geiser's system to only display bars upon the entry of a user command in order to maximize the amount of usable screen space for as long as possible.

As per claim 10, Geiser does not specifically teach that one of the panels is semi transparent and/or transparent. However, Official Notice is taken that transparency is well known in the art and that it would have been obvious to one of ordinary skill in the art at the time of the invention to enhance Geiser's system to display a transparent panel in order to maximize the amount of usable screen space for as long as possible.

As per claims 16 and 20, they are the apparatus claims of claims 6 and 10 and are therefore rejected on the same basis.

Response to Argument

Applicant's arguments filed on 7/12/04 have been fully considered but they are not persuasive.

7. Applicant's argument focused on the following issues:

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A) Applicant argues that Geiser did not include limitation directed to displaying higher hierarchical levels on adjoining panels of a first bar.

A) Webster defines hierarchy to be a graded or ranked series. Geiser teaches a system that the set of characters, which a user can select, is depending on the previous selected characters. (col. 3, lines 6- col. 4 ,lines 10) Therefore the initially selected characters are ranked higher than the newly selected characters, because the initially selected characters determine which characters can be selected for the newly selected characters.

B) Applicant argues that there is no incentive as to why a person of ordinary skill in the pertinent art would be motivated to combine the teachings of Geiser and Matthews.

B) In response to applicant's argument that there is no suggestion to combine the 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 reason for placing each of the two bars at a position that is proximate to and parallel to an edge of the display is taught by Matthews (col. 13, lines 20-35), which is to dedicate 90% of the area in the center for displaying content.

8. **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

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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 Peng Ke whose telephone number is (571) 272-4062. The examiner can normally be reached on M-Th and Alternate Fridays 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kristine L Kincaid can be reached on (571) 272-4063. 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).

Peng Ke

Kristine Kincaid
KRISTINE KINCAID
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

Index of Claims



Application No.

09/893,850

Examiner

Peng Ke

Applicant(s)

BERGSTEN ET AL.

Art Unit

2174

√	Rejected
=	Allowed

-	(Through numeral) Cancelled
+	Restricted

N	Non-Elected
I	Interference

A	Appeal
O	Objected

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Search Notes



Application No.

09/893,850

Examiner

Peng Ke

Applicant(s)

BERGSTEN ET AL.

Art Unit

2174

SEARCHED

Class	Subclass	Date	Examiner
Update Search	See rejection above	11/04/04 11/04/04	PK

**SEARCH NOTES
(INCLUDING SEARCH STRATEGY)**

	DATE	EXMR

INTERFERENCE SEARCHED

Class	Subclass	Date	Examiner



Attorney Docket # 4925-119

2174#
41

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of
Jonas BERGSTEN et al.
Serial No.: 09/893,850
Filed: June 28, 2001
For: Method and Apparatus for Scrollable Cross-Point Navigation in a User Interface

Examiner: Sindya Narayanaswamy
Group Art: 2174

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on July 9, 2004 (Date of Deposit)

Steven R. Bartholomew
Name of applicant, assignee or registered representative
Steven R. Bartholomew
Signature
July 9, 2004
Date of Signature

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

RECEIVED
JUL 20 2004
Technology Center 2100

AMENDMENT

SIR:

Applicants hereby request a one month extension of the original shortened statutory response period set in the Office Action of March 12, 2004. A check in the amount of \$110 in payment of the government fee for a one-month extension of time is enclosed herewith. Any additional fees or charges required at this time in connection with the present application may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

Remarks/Arguments begin on page 2 of this paper.

07/14/2004 ZJUHARI 00000111 09893850

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REMARKS

The Office Action mailed on March 12, 2004 has been reviewed and carefully considered. Claims 1-3, 7-9, 11-13, and 17-19 were rejected under 35 USC 102(b) as being anticipated by Geiser, U.S. Patent No. 5,059,965. Claims 4, 5, 14, and 15 were rejected under 35 USC 103(a) as being unpatentable over Geiser in view of Matthews, U.S. Patent No. 5,677,708. Claims 6, 10, 16, and 20 were rejected under 35 USC 103(a) as being unpatentable over Geiser. Claims 1-20 are pending in this application. Claims 1 and 11 are the only independent claims. In view of the following Remarks, reconsideration and withdrawal of the aforementioned rejections are respectfully requested.

Before discussing the cited prior art and the Examiner's rejections of the claims in view of that art, it would be appropriate to present a brief summary of applicants' claimed invention. The invention allows a user to navigate through a hierarchical structure by displaying information as to where the user is currently located in the hierarchical structure. The hierarchical structure includes a plurality of information entries organized into a plurality of groups (claim 1, lines 3-4 and 9-10; claim 11, lines 1-4 and 9-10; see also page 4, paragraph 7, lines 1-6 of applicants' disclosure). At least one group includes a sublevel of subgroups (claim 1, line 4; claim 11, lines 3-4). A scrollable cross-point navigation image is displayed in the form of two bars of panels with a common focus panel, each of the panels being linked to and identifying an information entry, a group, or a subgroup (claim 1, lines 5-8; claim 11, lines 5-8; see also page 4, paragraph 9, lines 1-7). The focus panel displays the user's current lowest level in the hierarchical structure, along with a successively higher hierarchical level, if any (claim 1, lines 9-10; claim 11, lines 9-10). Levels in the hierarchy that are higher than that displayed on the focus panel, if any, are identified in succeeding adjoining panels of a first of the two bars. Other panels of the first bar identify the highest level groups in the

hierarchy (claim 1, lines 11-13; claim 11, lines 11-13). Panels on the second of the two bars identify information entries (if any), groups (if any), or subgroups (if any) of the same level in the hierarchy as the currently selectable lowest level in the hierarchy identified in the focus panel (claim 1, lines 14-16; claim 11, lines 14-16).

A. Claim Rejections under 35 USC 102(b)

The Examiner rejected claims 1-3, 7-9, 11-13, and 17-19 under 35 USC 102(b) as being anticipated by Geiser, U.S. Patent No. 5,059,965. Geiser discloses a technique for selecting an alphabetic destination name by using a two-dimensional input element (col. 1, lines 55-68; col. 2, lines 43-45). A vertical component of the two-dimensional input element is used to scroll through various letters of the alphabet until a desired letter is selected (col. 2, lines 43-45 and 54-57). The two-dimensional input element is provided in the form of two mutually orthogonal bars (FIGs. 1A-1C). A horizontal bar of the two-dimensional input element is used to scroll through various letter positions from left to right within a word, so as to enable selection of a desired letter position (col. 2, lines 49-54). The name of a destination is spelled out by using a vertical bar of the two-dimensional input element to select an individual letter of the alphabet for each of a plurality of letter positions determined by the horizontal bar. Thus, Geiser utilizes two mutually orthogonal bars to select specific letters and letter positions within a word.

Geiser neither discloses nor suggests navigation through a hierarchical structure of information. More specifically, Geiser does not disclose or suggest applicants' claimed limitation as set forth in claim 1 which calls for "organizing a plurality of information entries into a hierarchy comprising a plurality of groups, at least one of which groups having at least one sublevel of subgroups" (claim 1, lines 3-4). Claim 11 contain an analogous limitation specifying "a database

storing a plurality of information entries in a hierarchy comprising a plurality of groups, at least one of which groups having at least one sublevel of subgroups" (claim 11, lines 3-4) Geiser provides only one hierarchical level -- namely, letters, and does not disclose use of subgroups. Moreover, the claimed invention as set forth in claims 1 and 11 uses a focus panel that "identifies (a) a currently selectable lowest level in the hierarchy and (b) the next higher level" (claim 1, lines 9-10; claim 11, lines 9-10). Geiser includes no focus panel for identifying a lowest hierarchical level and a next hierarchical level. The focus panel in applicants' claimed invention allows a user to navigate through a hierarchical structure by displaying information as to where the user is currently located in the hierarchical structure.

A further distinguishing feature of applicants' claimed invention is that successive adjoining panels on a first bar are used to identify levels higher than that displayed in the focus panel. Refer to lines 11-13 of claim 1 and lines 11-13 of claim 11 which provide that "levels...in the hierarchy higher than that displayed in the focus panel are identified in succeeding adjoining panels of a first of the two bars." Geiser includes no limitation directed to displaying higher hierarchical levels on adjoining panels of a first bar.

A still further distinguishing feature of applicants' claimed invention is that panels on a second bar are used to identify information entries, groups, or subgroups of the same level in the hierarchy as the currently selectable lowest level identified in the focus panel. Refer to lines 14-16 of claim 1 and lines 14-16 of claim 11 which provide that "panels of the second of the two bars each identify one of (a) information entries, if any, (b) groups, if any, and (c) subgroups, if any, of the same level in the hierarchy as the currently selectable lowest level in the hierarchy identified in the focus panel". Geiser includes no limitation directed to a second bar that identifies one of

information entries, groups, or subgroups at the lowest hierarchical level which is currently selectable at the focus panel.

To summarize, claims 1 and 11 are neither anticipated by, nor rendered obvious in view of, Geiser. Geiser neither discloses nor suggests navigation through a hierarchical structure of information. Geiser provides only one hierarchical level -- namely, letters. Geiser does not disclose use of subgroups. Geiser includes no focus panel for identifying a lowest hierarchical level and a next hierarchical level. Geiser includes no limitation directed to displaying higher hierarchical levels on adjoining panels of a first bar. Additionally, Geiser includes no limitation directed to a second bar that identifies one of information entries, groups, or subgroups at the lowest hierarchical level which is currently selectable at the focus panel.

Since claim 2 depends from independent claim 1 and claim 12 depends from independent claim 11, it is submitted that claims 2 and 12 are patentable over Geiser for the reasons set forth above in connection with claims 1 and 11. Moreover, with respect to claims 2 and 12, the Examiner noted that Geiser describes "two bars...sized and positioned on the display so as to permit viewing of a substantial portion of a background image presented on the display". Actually, Geiser is directed to a navigational system which provides a minimal distracting effect such that it can be used while driving (col. 1, lines 55-58). The driver is able to focus on driving without looking at the display of the navigational system because the system provides a vocal output (col. 2, lines 26-30). Geiser does not display a user interface on a windscreen. By contrast, applicants' invention as set forth in claims 2 and 12 provides a display with a user interface of two bars and a background image. The two bars are positioned so that they will not disturb the background image. Accordingly, claims 2 and 12 are neither anticipated by, nor rendered obvious in view of, Geiser.

Since claim 7 depends from independent claim 1 and claim 17 depends from independent claim 11, it is submitted that claims 7 and 17 are patentable over Geiser for the reasons set forth above in connection with claims 1 and 11. Moreover, the Examiner incorrectly alleged that Geiser describes a feature set forth in claims 7 and 17 which provides that "upon entry by the user on an input device of a selecting command, the electronic device performs an action corresponding to an information entry identified in the focus panel". As stated above, Geiser does not include a focus panel formed by an intersection of two panels. Thus, claims 7 and 17 are patentable over Geiser.

Since claims 3, 8, and 9 depend from independent claim 1 and claims 13, 17, and 18 depend from independent claim 11, it is submitted that claims 3, 8, 9, 13, 17, and 18 are patentable over Geiser for the reasons set forth above in connection with independent claims 1 and 11.

B. Claim Rejections under 35 USC 103(a)

The Examiner rejected dependent claims 4, 5, 14, and 15 under 35 USC 103(a) as being unpatentable over Geiser in view of Matthews, U.S. Patent No. 5,677,708. The Examiner noted that Geiser fails to teach applicants' claimed methods and devices wherein each of the two bars are positioned on the display to be proximate to and parallel to an edge of the display. Accordingly, the Examiner cited Matthews as allegedly disclosing methods of displaying control objects on a display proximate to an edge of a display. Matthews discloses a system for displaying a list of items on a television display screen (col. 4, lines 31-34). The system is designed to overcome the limited viewing area of television screen (col. 2, line 63- col. 3, line 11) by partially displaying list items at the borders of the screen (col. 4, lines 31-42; see also FIG. 5). Referring to col. 13, lines 22-37, Matthews "displays a list in a control object on the display screen of a conventional television set, as shown in FIGs. 4-10. The display of video signals on conventional television sets is not guaranteed but is variable. The 'safe title' zone includes the center 80% of the television screen and the 'safe

action' zone includes the center 90% of the television screen. This is shown in FIG. 4, which is not drawn to scale. The video signal to be displayed on the television display screen 130 is not guaranteed to be displayed in its entirety. The 'safe title' zone 132 and 'safe action' zone 134 are the areas of the display screen in which certain displays can be essentially guaranteed. Thus, in areas of the display screen 130 between the 'safe title' zone 132 and the outer border of the display screen, video signals intended to be displayed cannot be guaranteed." Accordingly, Matthews describes a system wherein a user interface is displayed substantially in the middle of the display area, within the 'safe title' zone 132 and the 'safe action' zone 134.

The Examiner has presented no incentive as to why a person of ordinary skill in the pertinent art would be motivated to combine the teachings of Geiser and Matthews. Geiser and Matthews are drawn from two completely disparate areas of prior art: automobile navigation systems and cable television. Through the use of a mutually orthogonal manual selection device, Geiser overcomes the problem of selecting an alphabetical destination name while driving. This selection device is employed in the context of vehicular applications. In contrast to the Geiser device, Matthews overcomes the problem of a limited display area on a television screen by displaying portions of control objects at the periphery of the screen. Thus, Matthews and Geiser are drawn from two totally unrelated fields. A person of ordinary skill seeking to improve television displays would have no incentive to consider the automobile-oriented selection device of Geiser. Skilled artisans seeking to improve the ergonomic design of automobile navigation systems would have no incentive to consider a reference drawn from the field of cable television, such as Matthews. Accordingly, the Examiner's rejection of dependent claims 4, 5, 14, and 15 is based on an improper combination of references and should be withdrawn.

Even if the teachings of Geiser and Matthews are combined, the resulting combination fails to meet the claimed invention. Geiser teaches the display of two mutually orthogonal bars, whereas Matthews teaches the display of partial control objects at the periphery of a television screen. Combining the teachings of Matthews and Geiser results in a display of two mutually orthogonal bars wherein a portion of one of the bars is shown at the periphery of a television screen. Neither reference suggests or teaches a focus panel formed at the intersection of the two bars. Accordingly, claims 4, 5, 14 and 15 are not obvious in view of the combination of Geiser and Matthews.

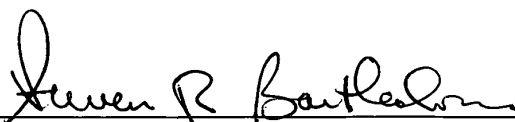
Dependent claims 6, 10, 16, and 20 depend, either directly or indirectly, from independent claim 1 or independent claim 11. It is submitted that claims 6, 10, 16, and 20 are not obvious in view of Geiser for the reasons set forth above in connection with claims 1 and 11.

C. Summary

In view of the foregoing considerations, it is submitted that claims 1-20 are allowable over the prior art of record, and such action by the Examiner is earnestly solicited.

Respectfully submitted,

COHEN, PONTANI, LIEBERMAN & PAVANE

By 

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551 Fifth Avenue, Suite 1210
New York, New York 10176
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Dated: July 9, 2004



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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/893,850	06/28/2001	Jonas Bergsten	4925-119	5633

7590 03/12/2004
COHEN, PONTANI, LIEBERMAN & PAVANE
551 Fifth Avenue, Suite 1210
New York, NY 10176

EXAMINER

NARAYANASWAMY, SINDYA

ART UNIT PAPER NUMBER

2174

7

DATE MAILED: 03/12/2004

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

Office Action Summary	Application No. 09/893,850	Applicant(s) BERGSTEN ET AL.	
	Examiner Sindya Narayanaswamy	Art Unit 2174	

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

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).

Status

- 1) Responsive to communication(s) filed on 28 June 2001.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-20 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-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)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date _____.
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date _____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____.

DETAILED ACTION

1. Claims 1 - 20 are presented for examination.

Claim Rejections - 35 USC § 102

1. 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.

2. Claims 1-3, 7-9, 11-13 and 17-19 are rejected under 35 USC 102(b) as being anticipated by Geiser, US-5,059,965.
3. As per claim 1, Geiser teaches a method for displaying information in a display associated with an electronic device comprising: organizing a plurality of information entries into a hierarchy comprising a plurality of groups, at least one of which groups have at least one sub-level of sub-groups (*subsets*) (col. 4, lines 5-8); and displaying panels on a display associated with an electronic device, the panels being arranged into two bars of panels with a common focus panel (*horizontal and vertical components*), each of the panels being linked to and identifying one of (a) the plurality of information entries, (b) one of the groups, and (c) one of the subgroups (*selection of destination*), wherein the focus panel identifies (a) a currently selectable lowest level in the hierarchy and (b) the next higher level, if any, wherein levels, if any in the hierarchy higher than that displayed in the focus panel are identified in succeeding adjoining panels of a first of the two bars, other panels of the first bar identifying highest level groups in the hierarchy, and wherein panels of the second of the two bars each identify one of (a)

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information entries if any, (b) groups, if any, and (c) subgroups, if any, of the same level in the hierarchy as the currently selectable lowest level in the hierarchy identified in the focus panel (*subsequent selections always limited by the preceding letter/subgroups*) (col. 2, line 43-col. 3, line 25).

4. As per claim 2, Geiser teaches the method wherein the two bars are sized and positioned on the display so as to permit viewing of a substantial portion of a background image presented on the display (*navigation system that minimizes distracting effect, and allows simultaneous driving*) (col. 1, lines 55-58).

5. As per claim 3, Geiser teaches the method wherein the two bars are perpendicular to one another (Fig. 1a-1c, col. 4, lines 51-61) (*the two components are arranged in a perpendicular fashion*).

6. As per claim 7, Geiser teaches the method wherein upon entry by the user on an input device of a selecting command, the electronic device performs an action corresponding to an information entry identified in the focus panel (*destination name is shown on optical display as a response action*) (col. 5, lines 7-10).

7. As per claim 8, Geiser teaches the method wherein a currently selected lowest level in the hierarchy identified in the focus panel is changed upon the entry of a navigation command by the user on an input device (*upon letter selection level is changed*) (Fig. 1a-1c, col. 3, lines 4-12).

8. As per claim 9, Geiser teaches the method wherein information entries, groups, or subgroups linked to the panels are identified on the panels by at least one of text and graphics (*subgroups of letters*) (Fig. 1a-1c).

9. As per claims 11-13 and 17-19, they are the apparatus claims of claims 1-3 and 7-9 and are rejected on the same basis.

Claim Rejections - 35 USC § 103

10. 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 negated by the manner in which the invention was made.

11. Claims 4, 5, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Geiser, US 5,059,965 in view of Matthews et al (hereinafter Matthews), US- 5,677,708.

12. As per claims 4 and 5, Geiser does not teach the method wherein each of the two bars are positioned on the display to be proximate to and parallel to an edge of the display. However, Matthews teaches the method of displaying bars (*control objects*) on the display proximate to an

Art Unit: 2174

edge of the display parallel (*borders of screens*). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Geiser with Matthews step of displaying objects on the edge of the screen because it would improve Geiser's system by increasing the amount of usable screen space that is available.

13. As per claims 14 and 15, they are the apparatus claims of claims 4 and 5 and are therefore rejected on the same basis.

14. Claims 6, 10, 16 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Geiser, US 5,059,965

15. As per claim 6, Geiser does not teach the method wherein the two bars are displayed on the display only upon entry of a command by a user. However, Official Notice is taken that display upon selection is well known in the art and that it would have been obvious to one of ordinary skill in the art at the time of the invention to enhance Geiser's system to only display bars upon the entry of a user command in order to maximize the amount of usable screen space for as long as possible.

16. As per claim 10, Geiser does not specifically teach that one of the panels is semi-transparent and/or transparent. However, Official Notice is taken that transparency is well known in the art and that it would have been obvious to one of ordinary skill in the art at the time of the

Art Unit: 2174

invention to enhance Geiser's system to display a transparent panel in order to maximize the amount of usable screen space for as long as possible.

17. As per claims 16 and 20, they are the apparatus claims of claims 6 and 10 and are therefore rejected on the same basis.

Conclusion

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. US-4,241,521 – display system
- b. US-4,313,113 – cursor/user control

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sindya Narayanaswamy whose telephone number is (703) 305-8473. The examiner can normally be reached on 8 am to 5 pm, first Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kristine Kincaid can be reached on (703) 308-0640. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Application/Control Number: 09/893,850
Art Unit: 2174

Page 7

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).

Sindya Narayanaswamy
February 20, 2004

Kristine Kincaid
KRISTINE KINCAID
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

Notice of References Cited	Application/Control No. 09/893,850	Applicant(s)/Patent Under Reexamination BERGSTEN ET AL.	
	Examiner Sindya Narayanaswamy	Art Unit 2174	Page 1 of 1

U.S. PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
A	US-5,677,708	10-1997	Matthews et al.	345/684
B	US-5,283,560	02-1994	Bartlett, Joel F.	345/729
C	US-5,059,965	10-1991	Geiser, Georg	340/995.23
D	US-4,241,521	12-1980	Dufresne, Armand F.	434/112
E	US-			
F	US-			
G	US-			
H	US-			
I	US-			
J	US-			
K	US-			
L	US-			
M	US-			

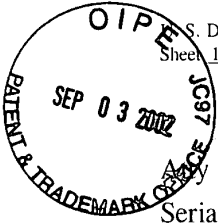
FOREIGN PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
N					
O					
P					
Q					
R					
S					
T					

NON-PATENT DOCUMENTS

*	Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
U	
V	
W	
X	

*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.



LIST OF REFERENCES CITED BY APPLICANT

Docket No.: 4925-119 Filing Date: June 28, 2001
 Serial No.: 09/893,850 Group Art: 2632
 Applicant: Jonas BERGSTEN et al.

U.S. PATENT DOCUMENTS

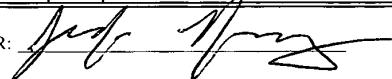
*Ex. Intls.		Document No.	Date	Name	Class	Subclass	Filing Date
GN	AA	5,485,175	1/1996	Suzuki	395	156	2/1995
GN	AB	5,751,369	5/1998	Harrison et al.	348	552	5/1996
GN	AC	5,815,155	9/1998	Wolfston,	345	357	8/1996
	AD						
	AE						

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*Ex. Intls.		Document No.	Date	Country	Name	Class	Subclass	Translation Yes/No
GN	AF	WO 00/79374 A1	12/2000	PCT	RECEIVED Roufford et al.	G06F	3/033	YES
	AG				SEP 09 2002			RECEIVED
	AH							SEP 06 2002
	AI				Technology Center 2100			
	AJ							Technology Center 2600

OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

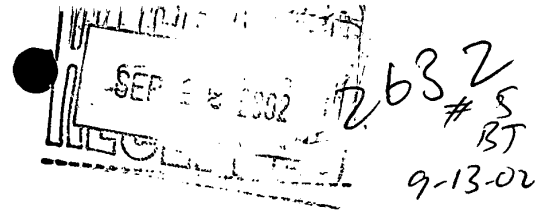
	AK		"Mechanism of displaying a menu which minimizes the eye movement" IBM Technical Disclosure Bulletin, IBM Corp. New York, US, vol. 36, no. 8, 1 August 1993 (1993-08-01) pages 25-28, XP000390130
	AL		
	AM		

EXAMINER:  DATE CONSIDERED: 2/19/04

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



Attorney Docket # 4925-119



Patent

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of
Jonas BERGSTEN et al.
Serial No.: 09/893,850
Filed: June 28, 2001
For: Method and Apparatus for Scrollable Cross-Point Navigation in a User Interface

Examiner:
Group Art: 2632

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August 27, 2002
(Date of Deposit)

Michael C. Stuart

Name of applicant, assignee or Registered Representative

Michael C. Stuart
Signature

August 27, 2002
Date of Signature

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INFORMATION DISCLOSURE STATEMENT

SEP 06 2002

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S I R:

In compliance with the duty of disclosure under 37 C.F.R. § 1.56 and in accordance with the practice under 37 C.F.R. §§ 1.97 and 1.98, the Examiner's attention is directed to the documents listed on the enclosed Form PTO 1449. Copies of the listed documents are also enclosed.

Also enclosed is a copy of an International Search Report issued in the corresponding PCT application.

It is respectfully requested that the above information be considered by the Examiner and that the copy of the enclosed Form PTO-1449 be returned indicating that such information has been considered.

In accordance with 37 C.F.R §§1.97(g) and (h), the filing of this Information Disclosure Statement should not be construed as a representation that a search has been made or that information cited is, or is considered to be, material to patentability as defined in §1.56(b), or that any cited document listed or attached is (or constitutes) prior art. Unless otherwise indicated, the date of publication indicated for an item is taken from the face of the item and Applicant(s) reserve(s) the right to prove that the date of publication is in fact different.

If any fees or charges are deemed required at this time in connection with the application, the same may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

Respectfully submitted,
COHEN, PONTANI, LIEBERMAN & PAVANE

By:



Michael C. Stuart
Reg. No. 35,698
551 Fifth Avenue, Suite 1210
New York, New York 10176
(212) 687-2770

Dated: August 27, 2002



Attorney Docket # 4925-119

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#6
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Patent

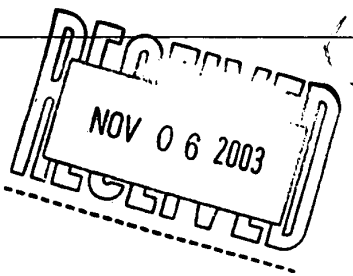
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of
Jonas BERGSTEN et al.

Serial No.: 09/893,850

Filed: June 28, 2001

For: Method and Apparatus for Scrollable Cross-Point Navigation in a User Interface



Examiner:
Group Art: 2632

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Signature

June 4, 2002
Date of Signature

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COMMUNICATION FORWARDING FORMAL DRAWINGS

S I R:

Enclosed is are nine (9) sheets of formal drawings (Figs. 1 to 9).

In the event that any fees or charges are deemed necessary in connection with the application at the present time, the same may be charged to our Deposit Account No. 03-2412.

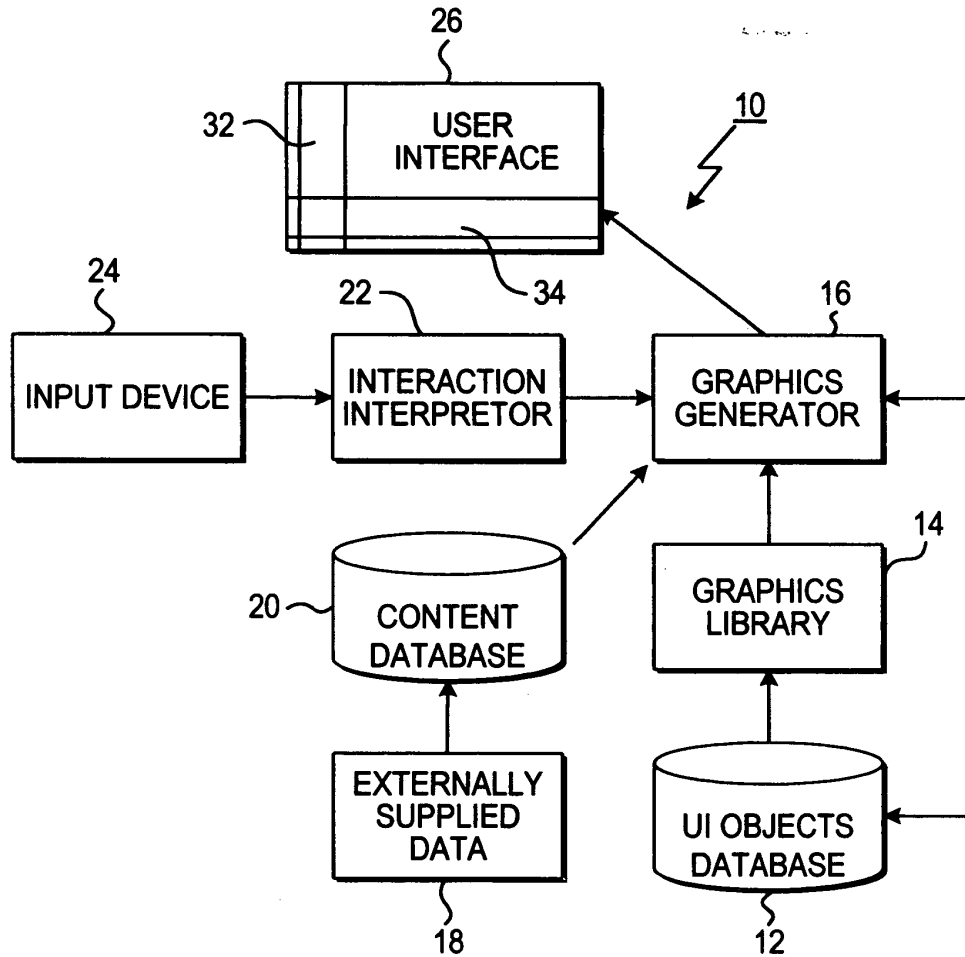
Respectfully submitted,
COHEN, PONTANI, LIEBERMAN & PAVANE

By *Michael C. Stuart*

Michael C. Stuart, Reg. No. 35,698
551 Fifth Avenue
New York, New York 10176
(212) 687-2770

Dated: June 4, 2002

FIG. 1



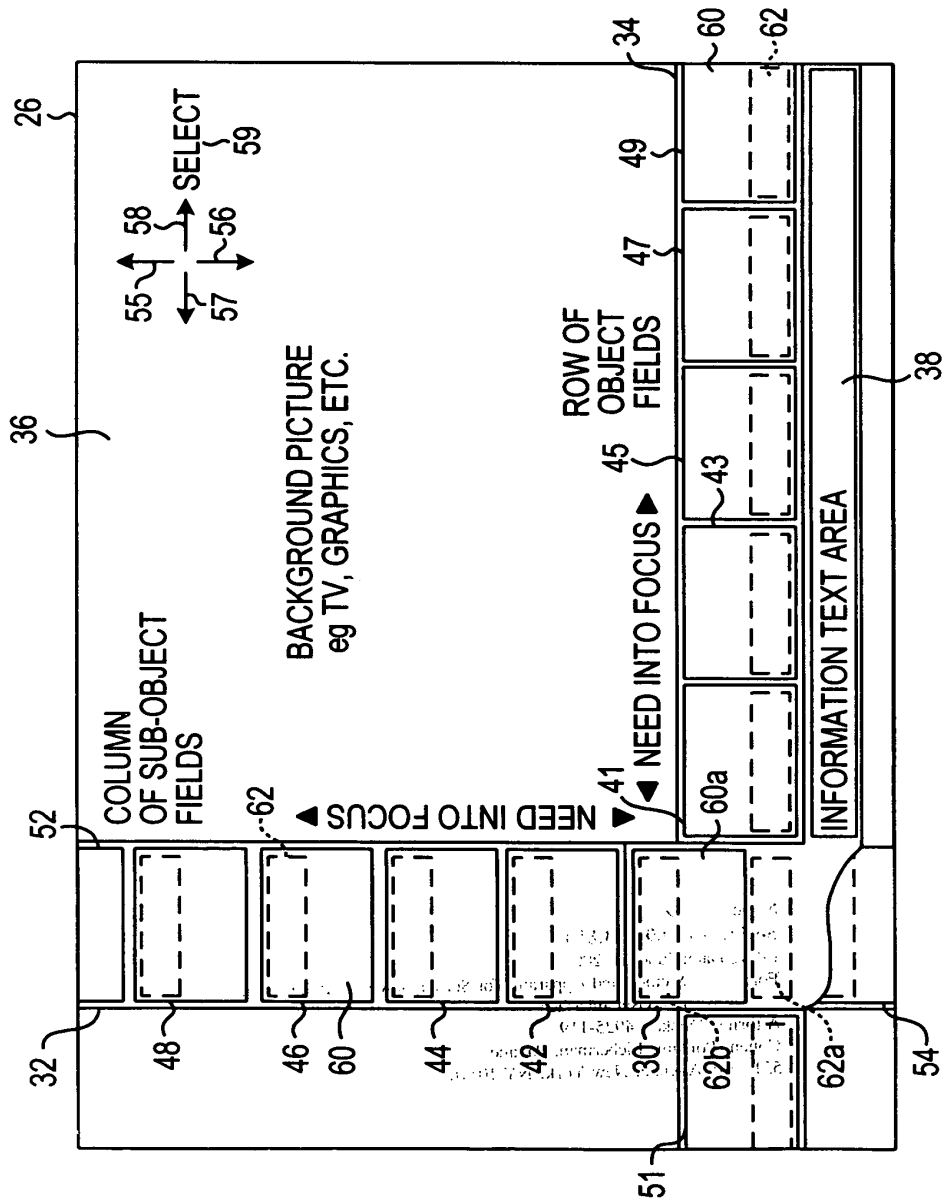


FIG. 2

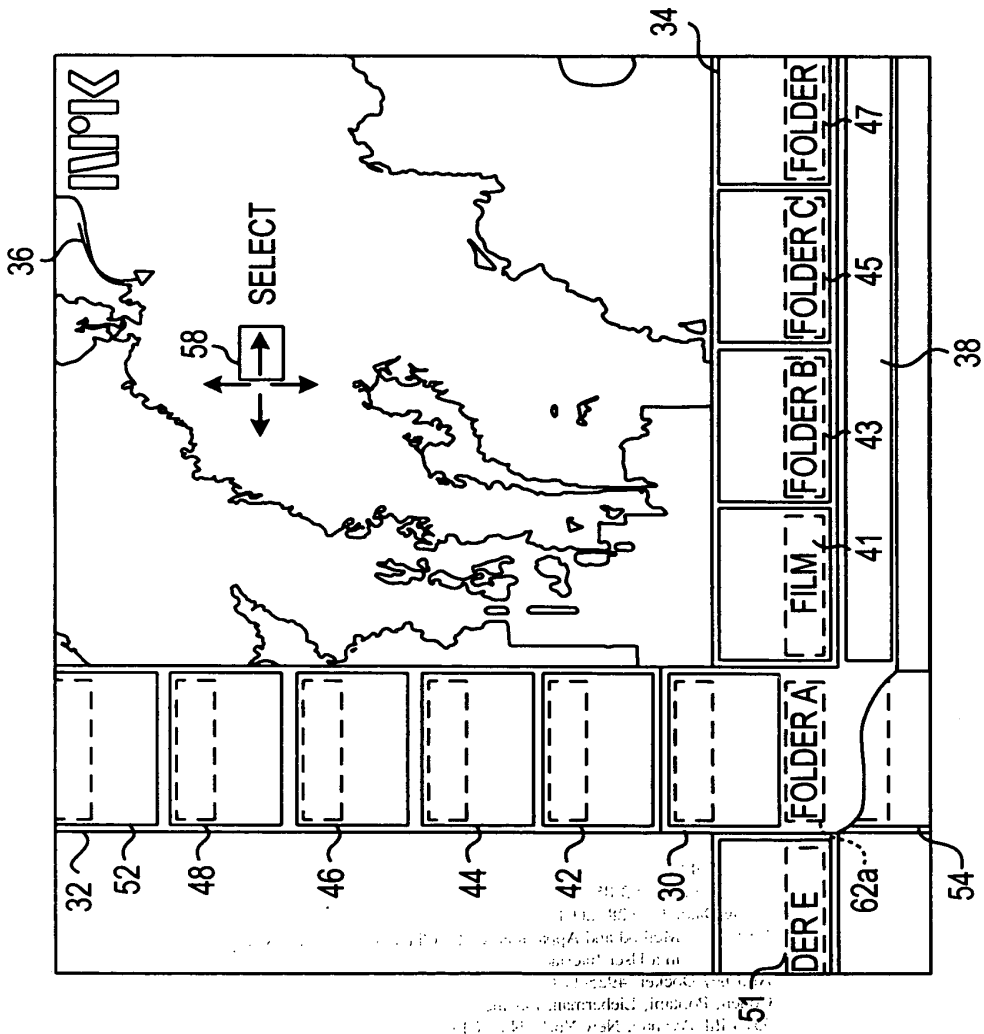


FIG. 3

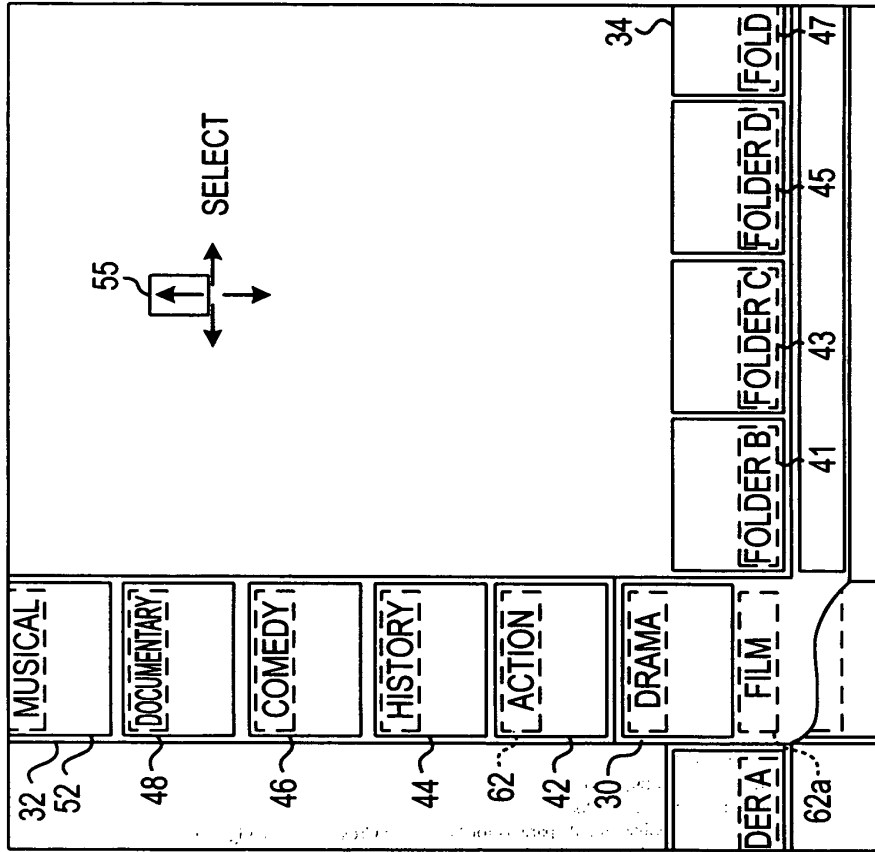


FIG. 4

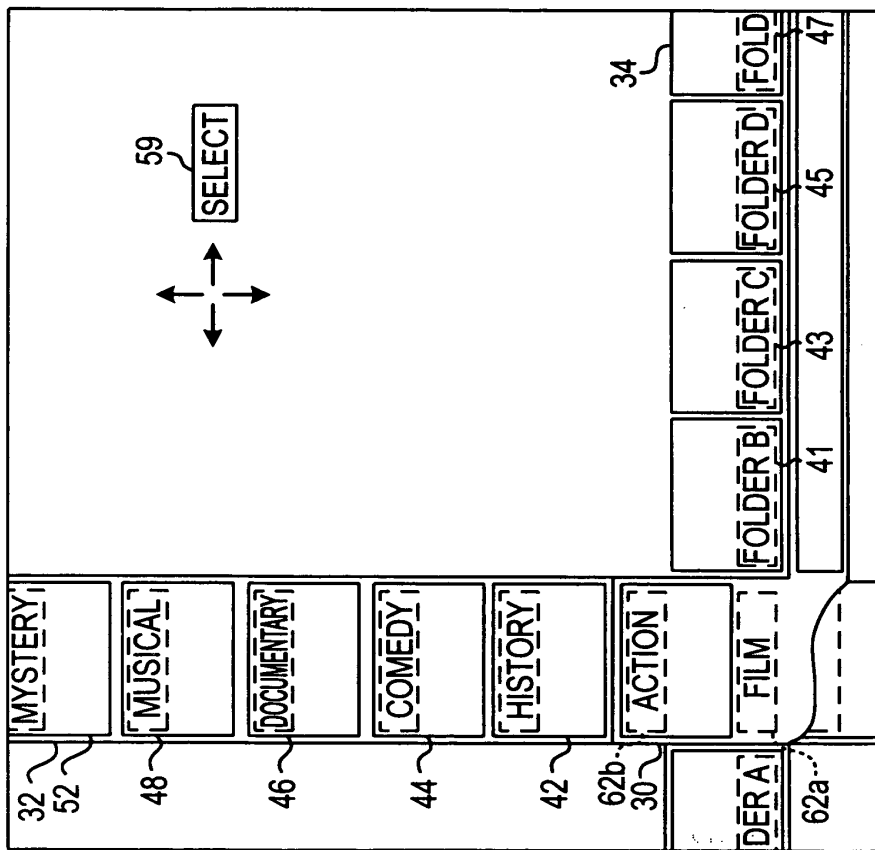


FIG. 5

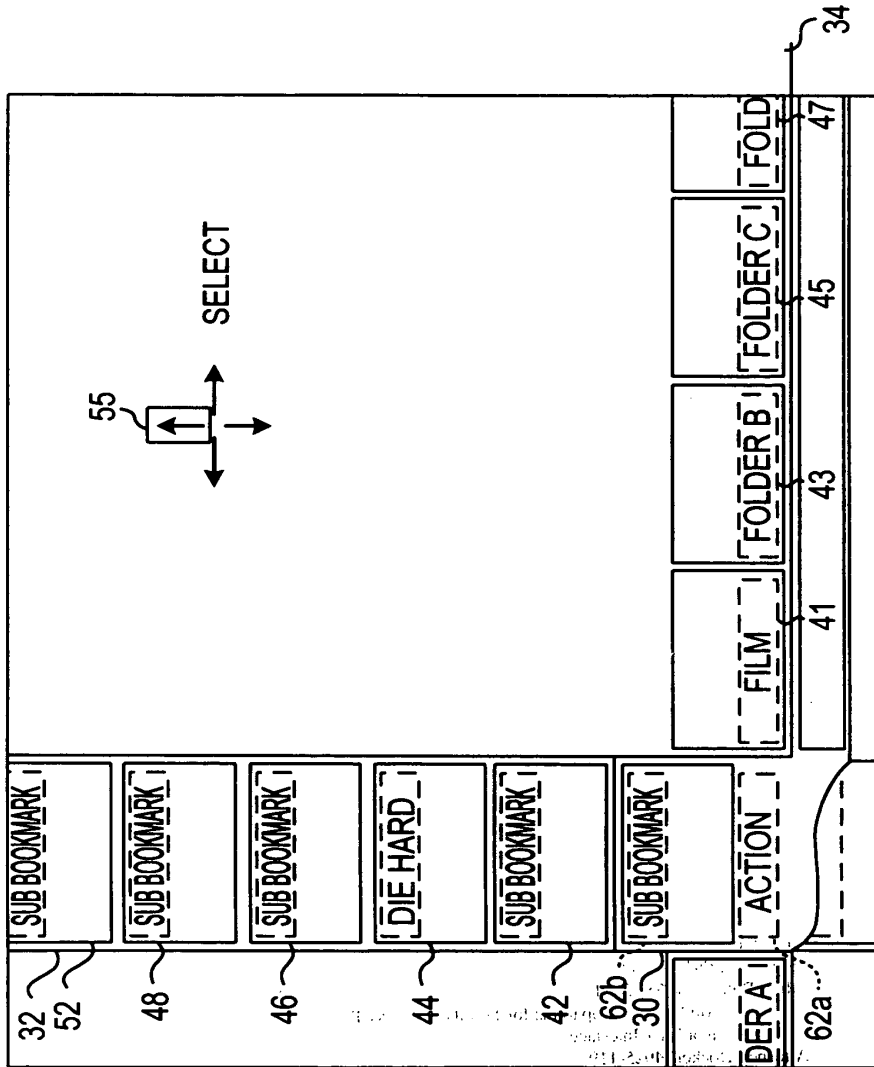


FIG. 6

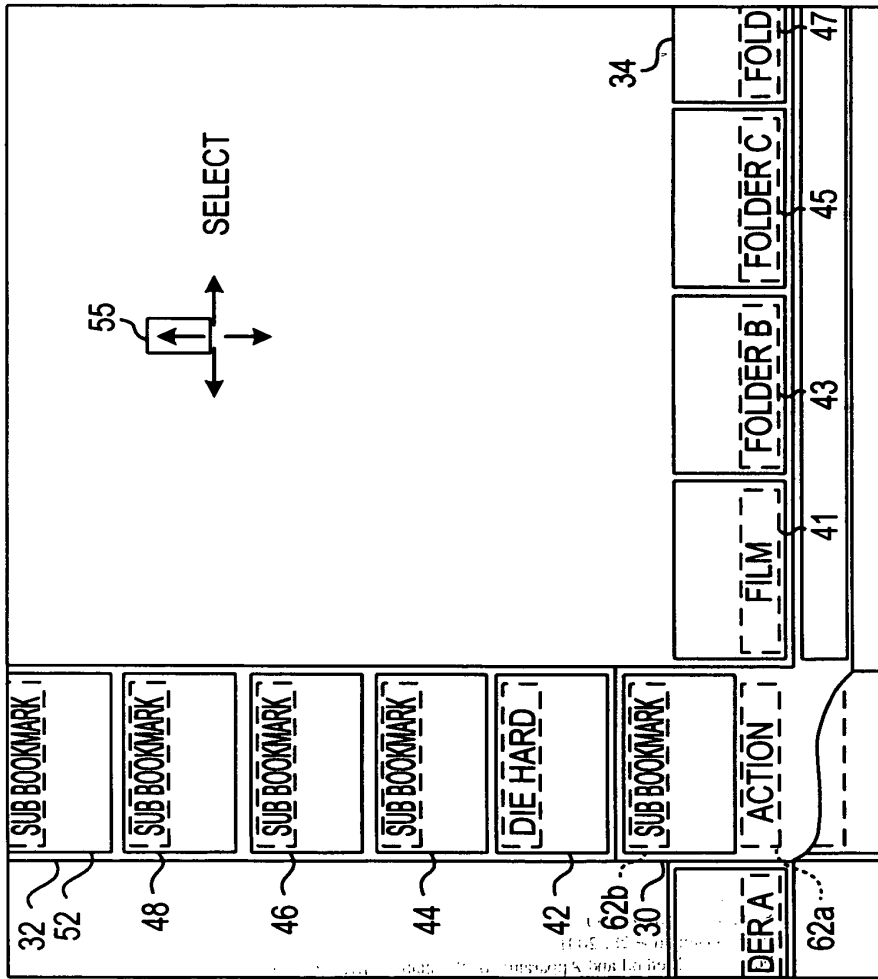


FIG. 7

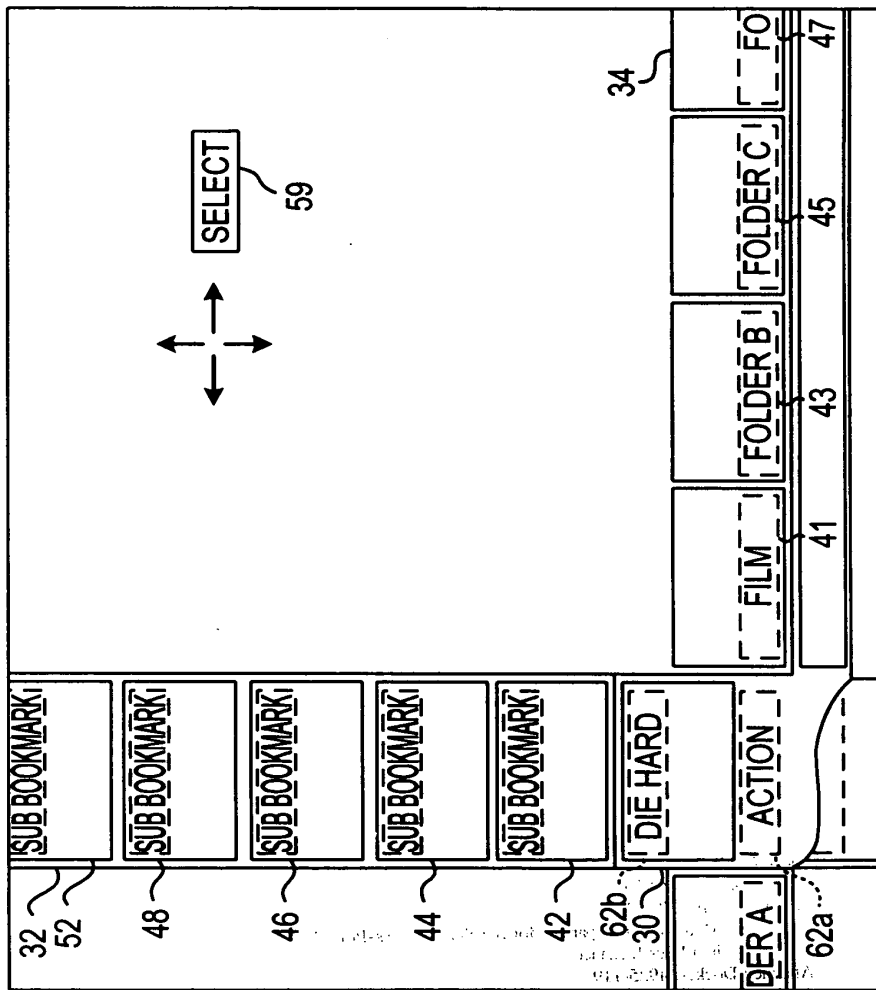


FIG. 8

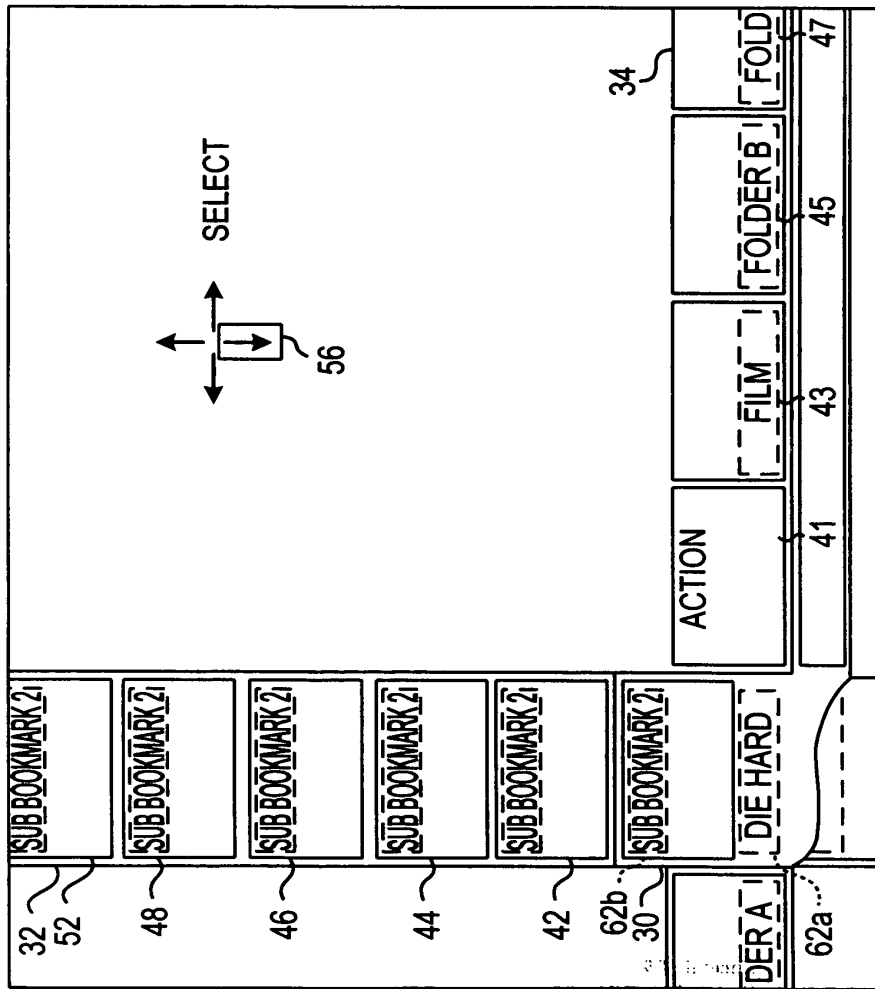


FIG. 9



SECTOR #3

Attorney Docket # 4925-119

Patent

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Jonas BERGSTEN et al.

Serial No.: 09/893,850

Filed: June 28, 2001

For: Method and Apparatus for Scrollable Cross-Point Navigation in a User Interface

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Michael C. Stuart

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RESPONSE TO NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION - FILING DATE GRANTED

Assistant Commissioner for Patents
Washington, D.C. 20231

S I R:

In order to complete the filing of missing parts for the above-identified application,

applicant(s) submit(s) herewith the following:

- Executed Declaration and Power of Attorney (attached to a copy of the application as originally filed). The application filed in the U.S. Patent and Trademark Office is the application which the inventor(s) executed by signing the enclosed Declaration.
- Check in the amount of \$130.00 to cover the late filing of the Declaration and Power of Attorney, as required by 37 CFR 1.16(e).
- Small Entity Status is claimed
- Letter transmitting Priority Document
- Priority Documents No(s). , , , ,
- Assignment of the invention to **Nokia Corporation**
- Recordation cover sheet - PTO Form 1595
- Check in the amount of \$40.00 to cover the recordation fee
- Verified English translation

- Check in the amount of \$130 to cover the fee for late submission of English translation, as required under 37 CFR 1.17(k)
- Copy of Notice to File Missing Parts of Nonprovisional Application

If an extension of time to respond to this Notice To File Missing Parts of Application is required, then this paper also constitutes an express request for such an extension of time.

In the event that any additional fees or charges are deemed necessary in connection with the application at the present time, the same may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

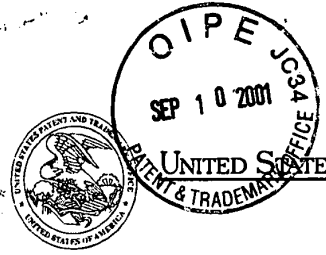
Respectfully submitted,
COHEN, PONTANI, LIEBERMAN & PAVANE

By: 

Michael C. Stuart
Reg. No. 35,698
551 Fifth Avenue
New York, New York 10176
(212) 687-2770

Dated: 5 September 2001

#3



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APPLICATION NUMBER	FILING/RECEIPT DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NUMBER
09/893,850	06/28/2001	Jonas Bergsten	4925-119

CONFIRMATION NO. 5633

FORMALITIES LETTER



OC00000006458201

COHEN, PONTANI, LIEBERMAN & PAVANE
 551 Fifth Avenue, Suite 1210
 New York, NY 10176

Date Mailed: 08/22/2001

NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(b)

Filing Date Granted

An application number and filing date have been accorded to this application. The item(s) indicated below, however, are missing. Applicant is given **TWO MONTHS** from the date of this Notice within which to file all required items and pay any fees required below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

- The oath or declaration is unsigned.
- To avoid abandonment, a late filing fee or oath or declaration surcharge as set forth in 37 CFR 1.16(e) of \$130 for a non-small entity, must be submitted with the missing items identified in this letter.
- **The balance due by applicant is \$ 130.**

*A copy of this notice **MUST** be returned with the reply.*

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#4

APPLICATION FOR
UNITED STATES LETTERS PATENT

**METHOD AND APPARATUS FOR
SCROLLABLE CROSS-POINT NAVIGATION
IN A USER INTERFACE**

Inventors:

BERGSTEN, Jonas
SÖKJER, Per

FIELD OF THE INVENTION

[0001] The present invention relates to a method and apparatus for selecting or adjusting services or settings of an electronic device on a display of the electronic device.

BACKGROUND OF THE INVENTION

5 [0002] The conventional means of selection of services on or adjustment of settings of electronic devices, including, for example, a TV, set-top box, DVD player, VCR, domestic appliance, and other similar devices, typically has the disadvantage of covering the entire area of the device's display and also typically requires a significant number of key depressions until the desired selection is shown and is selected. This selection process is a significant problem for
10 many users of such electronic devices, including disabled persons and those who are unfamiliar with setting electronic devices, are fearful of adjusting such devices, have no patience to deal with the user interface which is often complex, or who do not want to spend the time and effort reading the device's operational manual. Such device operational manuals, if actually supplied with the device (which is not always the case), are typically somewhat incomprehensible due
15 either to their technical complexity, the complexity of the technical language used, their oversimplicity, their bad writing style, or their unavailability in the user's native language.

[0003] Additionally, remote control devices, such as those used with televisions, DVD players, VCRs, etc., have a large number of keys, and the design of the key pads for each device is typically different for different manufacturers of like devices and even different for different
20 devices of like manufacturers.

[0004] There is thus a need for an electronic device user interface that is simple for a user to operate without the need to study an incomprehensible written user's manual.

[0005] One such user interface that solves the aforementioned problems is disclosed in PCT Patent Publication No. WO 00/65429. In accordance with that user interface, a display on or associated with the electronic device presents to the user a pair of intersecting cross-point navigation bars. At least one of these bars is scrollable, and each bar displays one or more object fields. By selectively scrolling one or both of the bars, one at a time, by pressing appropriate buttons on the electronic device or its remote controller, the user positions a particular object field, or selection, at the point where the two bars intersect. When the user depresses a "select" button, the displayed object field is selected, and either a bar of the display transforms to the selected sub-field, or the electronic device performs the action corresponding to the displayed object field selected, thereby adjusting or setting the electronic device in the desired manner. By pressing another button when a particular object field is at the intersection of the two bars, the level of the object field displayed in the entire corresponding bar is changed so that the user is given a group of choices that fall under the selected object field category. Thus, for example, if the vertical bar has six object fields (A, B, C, D, E, and F), the horizontal bar will show sub-fields corresponding to the object field positioned at the intersection of the two bars (F-1, F0, F1, F2, F3, etc.), as shown in Fig. 2a of the patent publication. If the user depresses a predefined navigation key, sub-sub-fields (F2:-1, F2:0, F2:1, F2:2, F2:3, etc.) corresponding to the sub-field (F2) positioned at the intersection of the two bars are then displayed on the vertical bar, as shown in Fig. 2b of the patent publication. In actual use, words descriptive of, for example, instruction categories or actual instructions to be transmitted to the electronic device are displayed to the user, not merely letters and numbers. Such listing and selection of sub- and sub-sub-fields can go down to as many levels as is necessary to provide the user with a desired

selection of options. To navigate upward through the levels, a second predefined navigation key is depressed by the user, and, as a result, the visual content of the appropriate bar is changed to reflect a change in field level.

[0006] Although the user interface disclosed in PCT Patent Publication No. 5 WO 00/65429 is fully able to permit a user to satisfactorily navigate among a plurality of possible instructions or device settings arranged in a plurality of groups, sub-groups, sub-sub-groups, etc., it may be somewhat difficult for a user to determine where in the menu hierarchy of possible instructions and groups of instructions he currently is so that he can easily navigate to another desired available electronic device instruction or setting, or group of such instructions or 10 settings. This difficulty arises because only two levels of groups (or fields) are simultaneously displayed to the user. Whenever a group, sub-group, etc. is selected, the appropriate bar is overwritten by the sub-entries in the selected group or sub-group. Thus, no map is displayed showing generally where in the hierarchy of groups, sub-groups, etc. the user currently is located. As a result, a user unfamiliar with the hierarchy of the groups may be forced to 15 randomly press the navigation buttons repeatedly, thereby navigating up, down and/or through the levels, until he has found the desired instruction or group of instructions, or a group of instructions or an instruction that is familiar to the user to enable him to navigate to the instruction or group of instructions actually desired.

SUMMARY OF THE INVENTION

[0007] The present invention provides a method and apparatus for controlling, adjusting and/or setting of electronic devices and appliances controlled by remote control devices, such as wireless and pointing devices, or also voice-controlled devices. The invention allows the user to navigate through a hierarchy of groups of commands or selections while continuously providing the user with information as to where the user is currently located in the hierarchical structure of groups so that navigation through the groups and individual selections is simplified.

[0008] Suitable electronic devices and appliances to be controlled include, for example, television sets, satellite receivers, set-top boxes, cable television controllers, computers, household equipment, telephones, mobile phones, personal digital assistants, DVD players, CD players, VCRs, stereo equipment, etc., especially appliances provided with user interfaces such as display screens for interaction with remote control and other key pad devices.

[0009] In accordance with the present invention, a scrollable cross-point navigation image is displayed on a user interface display to select a feature by combining two object fields.

Two bars are displayed, each bar containing a plurality of panels, with each panel displaying a separate folder or particular setting. The two bars are positioned so that the bars overlap in a single focus panel. Preferably, the two bars are sized, shaped and positioned so as not to completely obscure the entirety of the display. As a result, a user can view the two bars, and can also view any programming or other information that is also being presented on the display.

[0010] The instructions, settings and/or selections that are available for selection by the user to adjust or set the electronic device are arranged in an associated database in one or more levels of groups (sub-groups, sub-sub-groups, etc.) so that settings, etc. of a similar nature are in

the same group, with the top most level being the most general, and the lowest most level being particular instructions. In between the top and bottom levels, there may be sub-levels which organize the contents of the database. The items in each level are linked to one or more items in immediately higher or lower levels, if any, to form a tree-like hierarchical structure.

5 [0011] When a user initially activates the user interface feature of the electronic device by entering the appropriate command on an input device, the user interface appears on a display on or associated with the electronic device being controlled. The focus panel displays (1) the user's current lowest level in the hierarchical structure of groups of settings or selections and (2) the next higher level, if any. The next higher level, if any, is shown in an adjoining panel on the
10 horizontal bar, the next higher level, if any, is shown in a next adjoining panel on the horizontal bar, and so on until there are no further higher levels to display, at which point the remaining upper-most level folders are displayed in the panels on the horizontal bar. In the panels of the vertical bar are sub-folders, if any, or individual settings, if any, that are within the folder appearing in the focus panel, that is, such sub-folders or settings that are of the same level as the
15 user's current lowest level in the hierarchical structure appearing in the focus panel. As the user descends down the folder hierarchy, the panels in the horizontal bar shift to the right and panels identifying levels between the current level and the top most level are displayed. As the user ascends through the folder hierarchy, the panels in the horizontal bar shift to the left. To navigate up or down folder levels and to select a particular folder at any level, the user employs
20 the input device to cause the bars, one at a time, to scroll up, down, left and right to cause a particular panel to be shifted into the focus panel and thereby navigate through the various levels of the hierarchical structure of groups of settings or selections. When the focus panel is

positioned at a desired folder, the user selects it with the input device. If a particular ultimate setting or instruction within a folder, sub-folder, etc., is selected by the user, the electronic device is instructed to perform the function of that setting or instruction. To move upward in the hierarchy to one of the folders shown in the horizontal bar to the right of the focus panel, the user
5 simply uses the input device to scroll the horizontal bar as desired.

[0012] The user interface, thus, always displays the user's current location in the hierarchical structure and the path of the folder, sub-folder, and sub-sub-folder, etc., that the user descended through to get to the current location. Because this folder path information is continuously displayed to the user, navigation through the folder structure and the instructions or
10 settings within that structure is immediately apparent and simple without the need for a user's manual explaining the structure of the folder structure.

[0013] Other objects and features of the present invention will become apparent from the following detailed description considered in conjunction with the accompanying drawings. It is to be understood, however, that the drawings are intended solely for purposes of illustration and
15 not as a definition of the limits of the invention, for which reference should be made to the appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] In the drawings, wherein like reference numerals delineate similar elements throughout the several views:

FIG. 1 is a schematic block diagram illustrating one embodiment of means used
5 to accomplish a apparatus in accordance with the present invention;

FIG. 2 is a schematically diagram of a preferred embodiment of a user interface in accordance with the present invention; and

FIGS. 3, 4, 5, 6, 7, 8, and 9 show one embodiment of the present invention at various different stages of operation.

DETAILED DESCRIPTION OF THE PRESENTLY PREFERRED EMBODIMENTS

[0015] Figure 1 is a schematic block diagram of one embodiment of an apparatus 10 in accordance with the present invention, comprising a UI objects database 12, a graphics library 14, a graphics generator 16, an externally supplied data means 18, a content database 20, an interaction interpreter 22, an input device 24, and a user interface 26.

[0016] The input device 24 is any means that can be employed by a user to enter commands to control the user interface 26 and can be any of a number of manual controllers, such as, for example, a hand-held remote control with a keypad for a television set-top box, a keyboard for a PC, a remote controlled computer mouse, or a control panel with a keypad for a microwave oven. When a user wants to change a setting of the interface 26, the input device 24 is manipulated, such as by the depressing of keypad buttons, to transmit a signal to the interaction interpreter 22. Preferably, as will become more apparent from the discussion below, the input device has directional keys (up, down, right, and left) and a "select" key which a user can depress to provide a selection command. The input device 24 may instead and/or also comprise means for detecting and interpreting spoken commands of the user. A spoken command device would for example, include a microphone, a data processor, a database containing vocabulary data, and speech recognition software to recognize voice commands of a user to the electronic device

[0017] An interaction interpreter 22 interprets signals received from the input device 24 and sends the corresponding instruction to a graphics generator 16. The interaction interpreter 22 transforms commands from the input device 24 to actions provided by the graphics generator 16.

[0018] The content database 20 contains information, and groups or folders of

information which can be presented on the user interface 26, which is preferably a screen, such as a television screen, monitor or flat panel display, such as liquid crystal or a plasma display. Samples of such information could be, for example, names of object fields containing sub-object fields or finite objects and help-texts that are presented to a user upon entry by the use of the appropriate commands. An object field is the name of a class or group of settings, sub-fields of settings, or sub-sub-fields of settings, etc. An example of an object field is the category or group, "Films". A finite object is a direct setting of a feature for the electronic device. An example of a finite object is the particular film, "Die Hard". All material in the content database 20 can be altered and/or edited by a content provider, such as the original equipment manufacturer of the electronic device, or the service provider of material presented to the user and controlled through the user interface 26. Such a service provider would include a cable television company that transmits television programming, movies and other entertainment to a user. In addition, if desired, some or all of the material in the content database may be altered and/or edited by the user. For example, a user may want to delete certain television stations that are not of interest, the user may want to rename folders, or the user may want to add additional objects, folders, subfolders, etc. Such added material might include bookmarks or shortcuts to web pages or locally stored content (such as folders, documents, video files, music files, etc. on a memory hard drive), control settings to a connected device at the user's location (such as a CD, DVD or video tape player/recorder), etc.

20 [0019] Externally supplied data 18 represents any content that is in the content database 20 from any source.

[0020] The UI objects database 12 contains types of graphical objects that can be

presented on the user interface 26. The UI objects database 12 supplies a graphics library 14 with generic representations of the types of graphical objects. The graphics library 14 contains functions to manipulate the UI objects in the interface 26. The graphics library 14 supplies the graphics generator 16 with specific instances from the UI objects database 12.

5 [0021] The graphic generator 16 controls the graphical presentation of the user interface 26 as well as manipulation accomplished by a user. The graphics generator 16 performs actions signaled by the interaction interpreter 22 through collecting content from the content database 20 and by merging the content with the graphics library 14 and delivering presentation of a desired action to the user interface 26. The user interface 26 presents feedback of any action performed
10 by a user of the interface 26.

[0022] Figure 2 schematically illustrates a user interface 26 in accordance with one embodiment of the present invention. The user interface 26 has two intersecting bars, preferably, a vertical bar 32 and a horizontal bar 34. The bars 32, 34 are preferably perpendicular to one another and are positioned proximate edges of the display area of the user interface 26 so that
15 obstruction by the bars is minimized of any background picture 36, such as a television program, graphics, etc. Although the bars 32, 34 are shown as being positioned proximate the left and bottom edges of the user interface, alternatively, they may be at any other location, such as free floating at any location in the background picture 36, or may be positioned along adjacent edges of the user interface. In addition, although bars 32, 34 are shown as being linear in shape, they
20 may assume any shape, such as, for example, curved into two circular or oval lines. Each of the bars 32, 34 is comprised of a plurality of panels, with vertical bar comprising panels 54, 30, 42, 44, 46, 48 and 52, and with horizontal bar comprising panels 51, 30, 41, 43, 45, 47 and 49. Each

bar 32, 34 may comprise more or fewer panels, as desired. The two bars, 32, 34 intersect with a common panel, focus panel 30. Although the panels are shown as being substantially rectangular in shape, they may assume any shape, such as square, oval, round, hexagonal, etc. Each of the panels preferably has one or more areas on which appears textual information and/or graphics.

5 For example, each panel of the vertical bar 32 has a smaller upper area 62 and a larger central area 60. Similarly, each panel of the horizontal bar 34 has a smaller lower area 62 and a larger central area 60. The focus panel 30, which is the panel where the vertical bar 32 and the horizontal bar 34 intersect, preferably has a larger central area 60a, a smaller lower area 62a, and a smaller upper area 62b. The areas 60, 60a, 62, 62a, and 62b of the panels are used to display

10 the textual information and/or graphics, as discussed below. The user interface 26 preferably also has an information field 38 positioned below the horizontal bar 34 where additional information can optionally be displayed. Finally, the user interface 26 preferably displays a plurality of possible navigation commands, shown as up, down, left and right arrows 55, 56, 57, 58 and a "Select" command 59. Although the navigation commands are shown as directed

15 arrows 55, 56, 57, 58, they may also be depicted as words or other pictures, such as pointing fists. The navigation and "Select" commands may be continuously displayed and highlighted when the user selects a particular command with the input device 24, or, alternatively, only displayed when a user actually selects that command. Although the command graphics 55, 56, 57, 58, 59 are shown in the upper right of the user interface 26, they may be in any position.

20 Preferably, the command graphics 55, 56, 57, 58, 59 are omitted entirely from the display at all times. However, if the user interface is a mouse, the display command graphics, such as those shown, enable selection by the user of a command by clicking with the mouse's pointer on the

appropriate command graphic 55, 56, 57, 58, 59. Additional, if the display is a touch screen, command graphics may be displayed so that touching by the user of the appropriate graphic selects that command for execution.

[0023] The various portions of the bars 32, 34, any text or graphics on the bars 32, 34,
5 and the commands 55, 56, 57, 58, 59, and are preferably suitably colored or shaded to contrast appropriately against the background picture 36 and other elements of the displayed information on the user interface 26 so that the user can easily discern all of the displayed information.

[0024] In operation, a user initially activates the user interface feature of the electronic device by entering the appropriate command on the input device 24. Thereupon, the user
10 interface 26 appears on the appropriate display on or associated with the electronic device. For certain electronic devices where information of interest is continuously shown, such as entertainment programming on a television monitor, for example, it is desirable that the user interface 26 only appear when the user wants to change a setting of the television. For other electronic devices where the associated display does not provide any other information, such as,
15 for example, a microwave oven, the user interface 26 might be continuously displayed.

[0025] All possible instructions, settings and/or selections available to the user to adjust or set the electronic device are arranged in the content database 20 in one or more levels of groups (sub-groups, sub-sub-groups, etc.) so that settings, etc. of a similar nature are in the same group. The items of a first level are very general. In a second level, the items are more detailed
20 than in the first level, but are still somewhat general. In a third level, the items are even more detailed than in the second level. And so on. The items are linked according to their contents. This means that an item of the first level is linked to one or more items of the second level.

Additionally, an item of the second level is linked to one or more items of the third level. And so on. Thus, with this linking structure, the items are arranged in a tree-like manner or hierarchical structure with any branch of the tree constituting a further level. Since, as discussed above, the user and/or the service provider may alter and/or edit the groups shown at the various levels, a folder in one particular level, for example, may have more or fewer sub-groups, sub-sub-groups, etc. than other folders in that same level. Additionally, it is also possible that the user and/or service provider may want a particular ultimate selection or device command that is frequently used (and which one might expect to be relegated only to a sub-sub-group) to be positioned with folders at the highest level, for example.

10 [0026] As discussed in detail below with reference to Figures 3 to 9 in which a particular embodiment is shown, the user's current location within the folder hierarchy is continuously displayed to the user in the horizontal bar 34. The focus panel 30 displays (1) the user's currently selected lowest level in the hierarchy in area 62a and (2) the next higher level, if any, in the area 62b. As the user descends into the folder hierarchy, the next higher level, if any, is shown in panel 41, the level above the level shown in panel 41 is shown in panel 43, and so on to the right across horizontal bar 34 until there are no further higher levels to display, at which point the remaining upper-most level folders are displayed in the panels on the horizontal bar 34. As the user descends down the folder hierarchy, the panels in the horizontal bar 34 shift to the right and panels identifying levels between the current level and the top most level are displayed. As 20 the user ascends through the folder hierarchy, the panels in the horizontal bar 34 shift to the left. To navigate up or down folder levels and to select a particular folder at any level, the user employs the input device 24 to activate "up", "down", "left", "right" and "SELECT" commands

which cause the bars 32, 34 to scroll in the selected direction, as indicated in Figure 2) to cause a particular panel to be shifted into the focus panel 30. In the panels of the vertical bar 32 are sub-folders, if any, or individual settings, if any, that are within the folder appearing in area 62a of focus panel 30, that is, such sub-folders or settings that are of the same level as the user's current
5 lowest level in the hierarchical structure appearing in area 62b of the focus panel 30.

[0027] To more fully understand the present invention, one embodiment of the present invention is shown in operation in Figures 3 to 9, in which the numbering of the various elements has been simplified relative to Figure 2. In this particular embodiment, the electronic device is a television with a cable television set-top box and the user interface is used to select a particular
10 entertainment program from among a plurality of possible entertainment programs. The present invention is not restricted to such an electronic device, and, as stated above can be used in conjunction with many other types of electronic devices.

[0028] Referring initially to Figure 3, horizontal bar 34 is comprised of six panels 51, 30, 41, 43, 45 and 47. In the lower areas 62 of the panels is text describing the name of the folder,
15 group or field represented by the respective panels. The horizontal panels depict folders of categories of possible entertainment programming available to the user. Although all of the panels show the generic titles, "Folder A", "Folder", etc., except panel 41 which reads "Film", in actual operation the other panels would depict titles of other entertainment programming categories, such as, for example, "network television programming", "music video", "channel
20 programming guide", "internet", etc. Rather than or in addition to text, graphics may be depicted on the panels, such as, for example, a movie projector for "Film", a television set for "network television programming", etc. The vertical bar 32 is comprised of seven panels 54, 30, 42, 44,

46, 48 and 52. These vertical panels depict sub-groups, bookmarks or selections, if any, collected in the folder identified in area 62a of focus panel 30. Although all of these panels except panel 30 are blank in Figure 3, in actual operation, each panel would display a title or graphic representative of its contents. The bars 32, 34 are positioned proximate edges of the display so that a great proportion of the current programming 36 is visible. Information field 38 is blank in Figure 3, but in practice would display relevant information, such as the date and time, the status of the electrical device, error messages, a short help message, etc. which are associated with the folder or bookmark identified in area 62b of focus panel 30.

[0029] As shown in Figure 3, the positioning of the bars 32, 34 is preferably selected so as to minimize obstruction of a background picture 36 that is being shown on the display. In Figures 4 to 9 the background picture 36 is omitted merely to simplify the Figures, although in practice the background picture, if any, would be displayed.

[0030] In this example, the user wants to view a "Film", the panel for which is to the right of focus panel 30. Consequently, the user uses the input device 24 to enter the "right" command once, as shown by the highlighted right arrow 58. The horizontal bar 34 shifts one position so that the focus panel 30 now shows "Film" in area 62a, as shown in Figure 4. The vertical bar now shows in its panels the sub-groups, bookmarks or selections collected in the folder entitled "Film". One of panel 42 shows the category "Action" in its area 62, referring to action films. Other panels in vertical bar 32 display other exemplary categories of "Films", "Drama" (panel 30), "History" (panel 44), "Comedy" (panel 46), "Documentary" (panel 48), and "Musical" (panel 52).

[0031] The user wants to view an Action film, the panel for which is up from the focus

panel 30. Consequently, the user employs the input device 24 to enter the “up” command once, as shown by the highlighted up arrow 55. The vertical bar shifts one position so that the focus panel 30 now shows the sub-group “Action” in area 62b and the name for the group “Film” in area 62a, as shown in Figure 5. To display the action films available, the user enters the “Select”
5 command on the input device 24, as shown by the highlighted “SELECT” command 59. Upon selection, as shown in Figure 6, the name for the group selected, “Film”, is then shifted to the right to panel 41, the name for the selected sub-group or bookmark, in this case “Action”, is substituted into area 62a of focus panel 30, and all of the available action films are shown on the panels of vertical bar 32. Vertical bar 32 now shows all sub-bookmarks categorized under the
10 bookmark “Action” and the folder “Film”.

[0032] One of the available action films is “Die Hard”, the title of which appears in panel 44 that is two panels up from focus panel 30. Although “Sub Bookmark” is shown for the other panels of the vertical bar, in practice the title of other available action films would be displayed in the panels. In a first step to select the film “Die Hard”, the user enters the “up” command a
15 first time, as shown by the highlighted up arrow 55. The vertical bar shifts one position so that the “Die Hard” panel shifts from panel 44 to panel 42, as shown in Figure 7. In a second step to select the film “Die Hard”, the user enters the “up” command a second time, as shown by the highlighted up arrow 55. The vertical bar shifts one position so that the “Die Hard” panel shifts from panel 42 to focus panel 30, as shown in Figure 8, with “Die Hard” appearing in area 62b.
20 Thus, in areas 62b of panels 42, 44, 48 and 52 appear sub-bookmarks (or selections) that are of the same level as the sub-bookmark “Die Hard” appearing in area 62b of focus panel 30.

[0033] To see what options are available for the sub-bookmark “Die Hard”, under the

bookmark "Action" in the folder "Film", the user activates the select command, as shown by the highlighted "SELECT" command 59. Upon selection of the sub-bookmark "Die Hard", as shown in Figure 9, the name for the group selected, "Film", is then shifted to the right to panel 43, the name for the selected sub-group or bookmark "Action" is shifted to the right to panel 41, the name for the selected sub-bookmark "Die Hard" is placed into area 62a of focus panel 30, and the available sub-sub-bookmarks (each labeled as "Sub Bookmark2") for "Die Hard" are displayed in the vertical bar 32. Although in Figure 9 panels 42, 44, 46, 48 and 52 all merely show the title "Sub Bookmark2", in practice various selections would be shown such as, for example, "Movie", "Movie Trailer #1", "Movie Trailer #2", "Director's Commentary", "Filming Special Effects", or "Scene Selection" which, if selected, would list as sub-sub-sub bookmarks, various scenes in the film "Die Hard" that can be viewed. The user can then select the "Sub Bookmark2" of interest for viewing. If the sub-sub-bookmark "Sub Bookmark2" selected is itself a folder containing additional sub-sub-sub-bookmarks, the panels of horizontal bar 34 are shifted to the right by one position and the areas 62a and 62b of focus panel 30 are appropriately modified.

[0034] As shown in Figure 9, even though the user has descended down a number of levels in the folder hierarchy, the current location is immediately apparent: panel 43 shows folder "Film", panel 41 shows bookmark "Action", area 62a of focus panel 30 shows sub-bookmark "Die Hard", and area 62b of focus panel 30 shows sub-sub-bookmark "Sub-Bookmark2".

[0035] If the user wanted to move upward in the folder hierarchy, the appropriate commands (up, down, left, right, and select) are entered and the horizontal and vertical bars 32, 34 are then appropriately modified. Thus, if the user wanted to ascend to the level, shown in

Figure 3, from the point shown in Figure 9, the user would merely enter the “left” command one time, as is evident from the fact that in Figure 9 the panel “Film” is shown as being two positions away from the focus panel 30.

[0036] Because the user’s current location is always apparent by a display of the folder path on the horizontal bar 34 irrespective of where in the folder hierarchy the user is currently
5 located, navigation by the user up and down and across the folder hierarchy is apparent and simple to accomplish without requiring the user to study a lengthy detailed written user’s manual.

[0037] To further ease understanding of the hierarchical structure of the folders and sub-
10 folders, etc., shown on the bars 32, 34, each level of folders preferably have a different color or coloring scheme. For example, the top level folders are green with black type, while at the next level down the bookmarks are blue with black type, and at the next level down the sub-bookmarks are red with white type, etc.

[0038] Although in the above-described embodiment the hierarchical structure of the
15 user’s current location is displayed in the panels on horizontal bar 34, alternatively this information may be displayed in the vertical bar 32 so that the information displayed in the bars 32, 34 are switched completely. Additionally, the names of the folders, bookmarks, etc. may be presented at any position on the panels, and instead of text, may be in graphical form and/or may also include graphics, as appropriate or desired.

[0039] Although the bars 32, 34 are shown as linear, they may be virtual loops so that
20 when the user scrolls through the bar to one end, the next panel that is presented is the panel at the other end. Thus, if the loop comprises only the folders shown, after scrolling the horizontal

bar 34 so that folders pass through the focus panel 30 one after the other until the folder originally in panel 49 moves to focus panel 30, the folder in panel 41 will become the folder that was originally in panel 51. A virtual loop may also have more entries than are displayed at once.

Thus, for example, although only six folders are displayed, the virtual loop may actually contain
5 many more than six folders, with others of the remaining folders being displayed as the user scrolls along the bar, thereby causing some of the initial six folders to disappear.

[0040] Movement of the panels of the bars 32, 34 may be accomplished by entering other commands than those discussed above, such as, for example, with reference to the discussion above concerning Figures 3 to 9 substituting “left” for “right”, “up” for “down”, etc. Although it
10 is preferred for the input device 24 to have four movement command keys so that all four possible movement commands can be easily entered, alternatively only two movement command buttons may be needed if the bars 32, 34 are virtual loops as discussed. Thus, by pressing a horizontal movement command button repeatedly, the appropriate panel will eventually scroll to the focus panel 30.

15 [0041] To allow more of the background picture to be displayed to the user, one or more of the panels in one or both of the bars 32, 34 distant from the focus panel 30 may be transparent or semi-transparent. In addition, the focus panel 30 itself may also be semi-transparent. Although the bars 32, 34 are shown in the figures as being adjacent the left and bottom edges of the user interface, they may be positioned adjacent other edges of the user interface.

20 [0042] The focus panel 30 may be displayed in a higher intensity, be shadowed and/or be larger than the other panels to enhance the viewability of the focus panel 30.

[0043] As is apparent, the folders and sub-folders, etc., displayed on the user interface 26

are appropriate for the particular electronic device being controlled. For example, if the electronic device is a microwave oven, the folders at the top level might include categories of heatable food dishes, such as “main dishes”, “snacks”, “beverages”, etc., and lower sub-levels for these folders might include other general categories such as “uncooked meal”, “reheated
5 meal”, “frozen meal”, with sub-sub-folders including particular meals such as “beef stew”, “lasagna”, “pizza”, “fish”, “French fries”, “corn”, etc.

[0044] Thus, while there have been shown and described and pointed out fundamental novel features of the present invention as applied to a preferred embodiment thereof, it will be understood that various omissions and substitutions and changes in the form and details of the
10 devices illustrated, and in their operation, may be made by those skilled in the art without departing from the spirit of the present invention. For example, it is expressly intended that all combinations of those elements and/or method steps which perform substantially the same function in substantially the same way to achieve the same results are within the scope of the invention. Substitutions of elements from one described embodiment to another are also fully
15 intended and contemplated. It is also to be understood that the drawings are not necessarily drawn to scale but that they are merely conceptual in nature. It is the intention, therefore, to be limited only as indicated by the scope of the claims appended hereto.

What is claimed is:

1. A method for displaying information in a display associated with an electronic device, comprising:

organizing a plurality of information entries into a hierarchy comprising a plurality of groups, at least one of which groups having at least one sublevel of subgroups; and

displaying panels on a display associated with an electronic device, the panels being arranged into two bars of panels with a common focus panel, each of the panels being linked to and identifying one of (a) one of the plurality of information entries, (b) one of the groups, and (c) one of the subgroups,

wherein the focus panel identifies (a) a currently selectable lowest level in the hierarchy and (b) the next higher level, if any,

wherein levels, if any, in the hierarchy higher than that displayed in the focus panel are identified in succeeding adjoining panels of a first of the two bars, other panels of the first bar identifying highest level groups in the hierarchy, and

wherein panels of the second of the two bars each identify one of (a) information entries, if any, (b) groups, if any, and (c) subgroups, if any, of the same level in the hierarchy as the currently selectable lowest level in the hierarchy identified in the focus panel.

2. The method of claim 1, wherein the two bars are sized and positioned on the display so as to permit viewing of a substantial portion of a background image presented on the display.

3. The method of claim 1, wherein the two bars are perpendicular to one another.
4. The method of claim 3, wherein each of the two bars are positioned on the display to be proximate an edge of the display.
5. The method of claim 3, wherein each of the two bars are positioned on the display to be parallel to an edge of the display.
6. The method of claim 1, wherein the two bars are displayed on the display only upon entry of a command by a user.
7. The method of claim 1, wherein upon entry by the user on an input device of a selecting command, the electronic device performs an action corresponding to an information entry identified in the focus panel.
8. The method of claim 1, wherein a currently selected lowest level in the hierarchy identified in the focus panel is changed upon the entry of a navigation command by the user on an input device.
9. The method of claim 1, wherein information entries, groups, or subgroups

linked to the panels are identified on the panels by at least one of text and graphics.

10. The method of claim 1, wherein at least one of the panels is one of semi-transparent and transparent.

11. An apparatus for displaying information in a display associated with an electronic device, comprising:

a database storing a plurality of information entries in a hierarchy comprising a plurality of groups, at least one of which groups having at least one sublevel of subgroups; and

a means for displaying panels on a display associated with an electronic device, the panels being arranged into two bars of panels with a common focus panel, each of the panels being linked to and identifying one of (a) one of the plurality of information entries, (b) one of the groups, and (c) one of the subgroups,

wherein the focus panel identifies (a) a currently selectable lowest level in the hierarchy and (b) the next higher level, if any,

wherein levels, if any, in the hierarchy higher than that displayed in the focus panel are identified in succeeding adjoining panels of a first of the two bars, other panels of the first bar identifying highest level groups in the hierarchy, and

wherein panels of the second of the two bars each identify one of (a) information entries, if any, (b) groups, if any, and (c) subgroups, if any, of the same level in the hierarchy as the currently selectable lowest level in the hierarchy identified in the focus panel.

12. The apparatus of claim 11, wherein the two bars are sized and positioned on the display so as to permit viewing of a substantial portion of a background image presented on the display.

13. The apparatus of claim 11, wherein the two bars are perpendicular to one another.

14. The apparatus of claim 13, wherein each of the two bars are positioned on the display to be proximate an edge of the display.

15. The apparatus of claim 13, wherein each of the two bars are positioned on the display to be parallel to an edge of the display.

16. The apparatus of claim 11, wherein the two bars are displayed on the display only upon entry of a command by a user.

17. The apparatus of claim 11, wherein upon entry by the user on an input device of a selecting command, the electronic device performs an action corresponding to an information entry identified in the focus panel.

18. The apparatus of claim 11, wherein a currently selected lowest level in the hierarchy identified in the focus panel is changed upon the entry of a navigation command by the

user on an input device.

19. The apparatus of claim 11, wherein information entries, groups, or subgroups linked to the panels are identified on the panels by at least one of text and graphics.

20. The apparatus of claim 11, wherein at least one of the panels is one of semi-transparent and transparent.



ABSTRACT

Method and apparatus for controlling an electronic device by navigating through a hierarchy of groups of commands while continuously providing the current location and path in the hierarchical structure. A displayed scrollable cross-point navigation image has two bars, each containing panels corresponding to a separate folder, etc. At the intersection of the bars is displayed the current lowest level and the next upper level, if any. The next higher level is shown in an adjoining panel on a first bar, the next higher level in a next adjoining panel on that bar, until there are no further higher levels to display, at which point the remaining upper-most level folders are displayed. The second bar displays sub-folders or settings within the folder in the focus panel. Moving in the folder hierarchy causes the panels in the first bar to shift to display all intervening levels through the top level.

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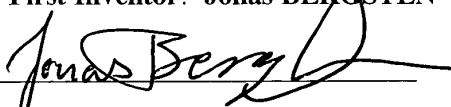
Address all correspondence to:

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

Full Name of Sole or First Inventor: Jonas BERGSTEN

Inventor's signature: _____



Dated: 08/22/01

Month/Day/Year

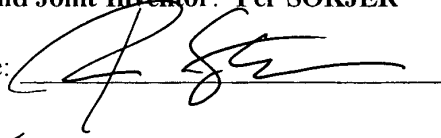
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#4

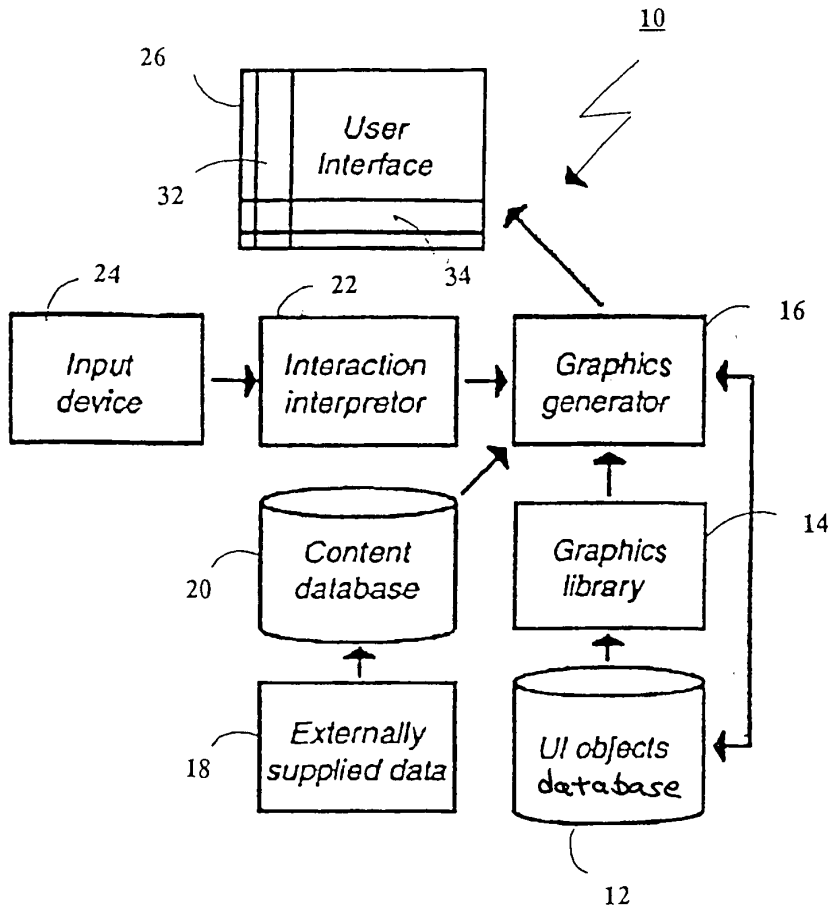


FIGURE 1

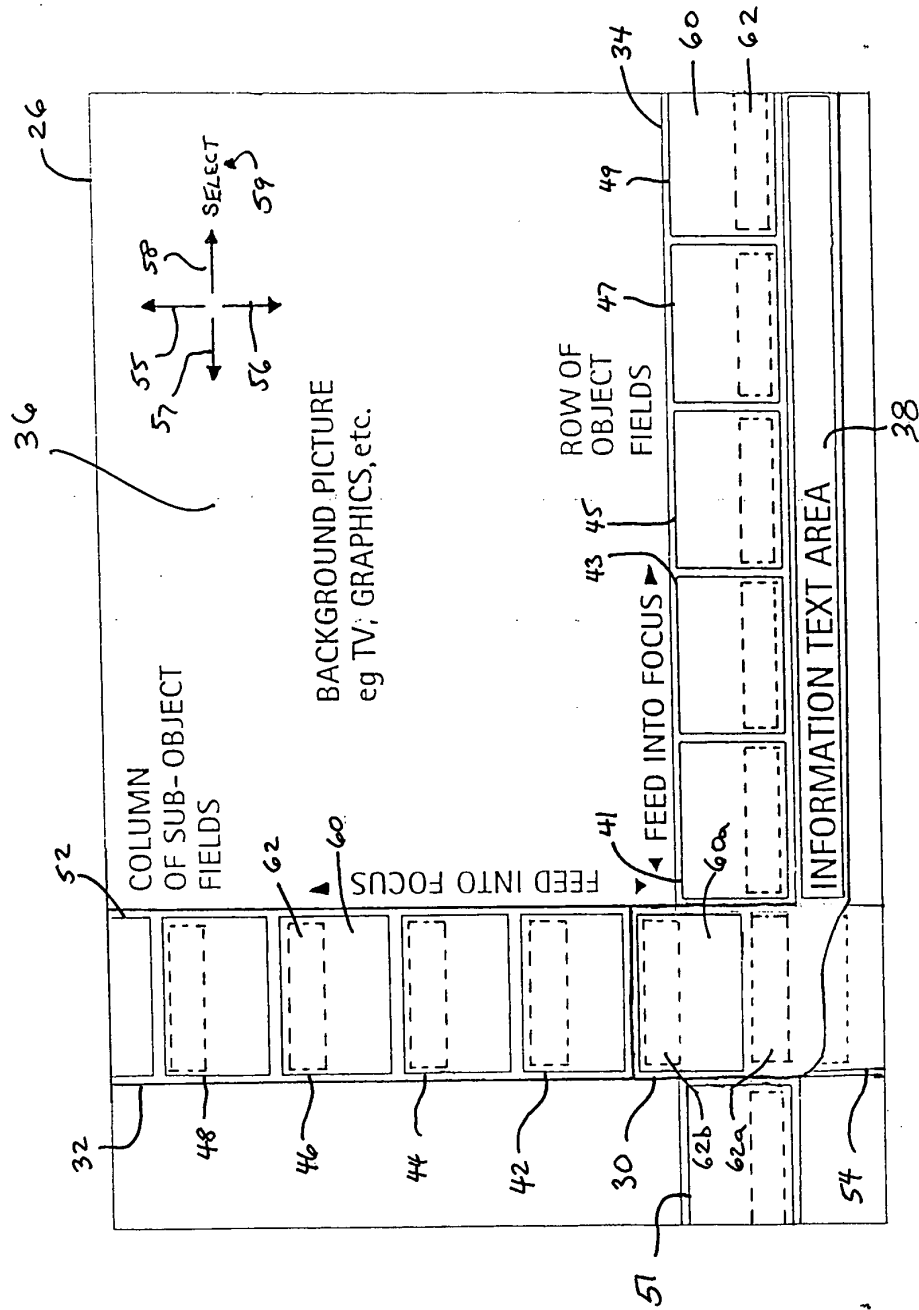


Figure 2

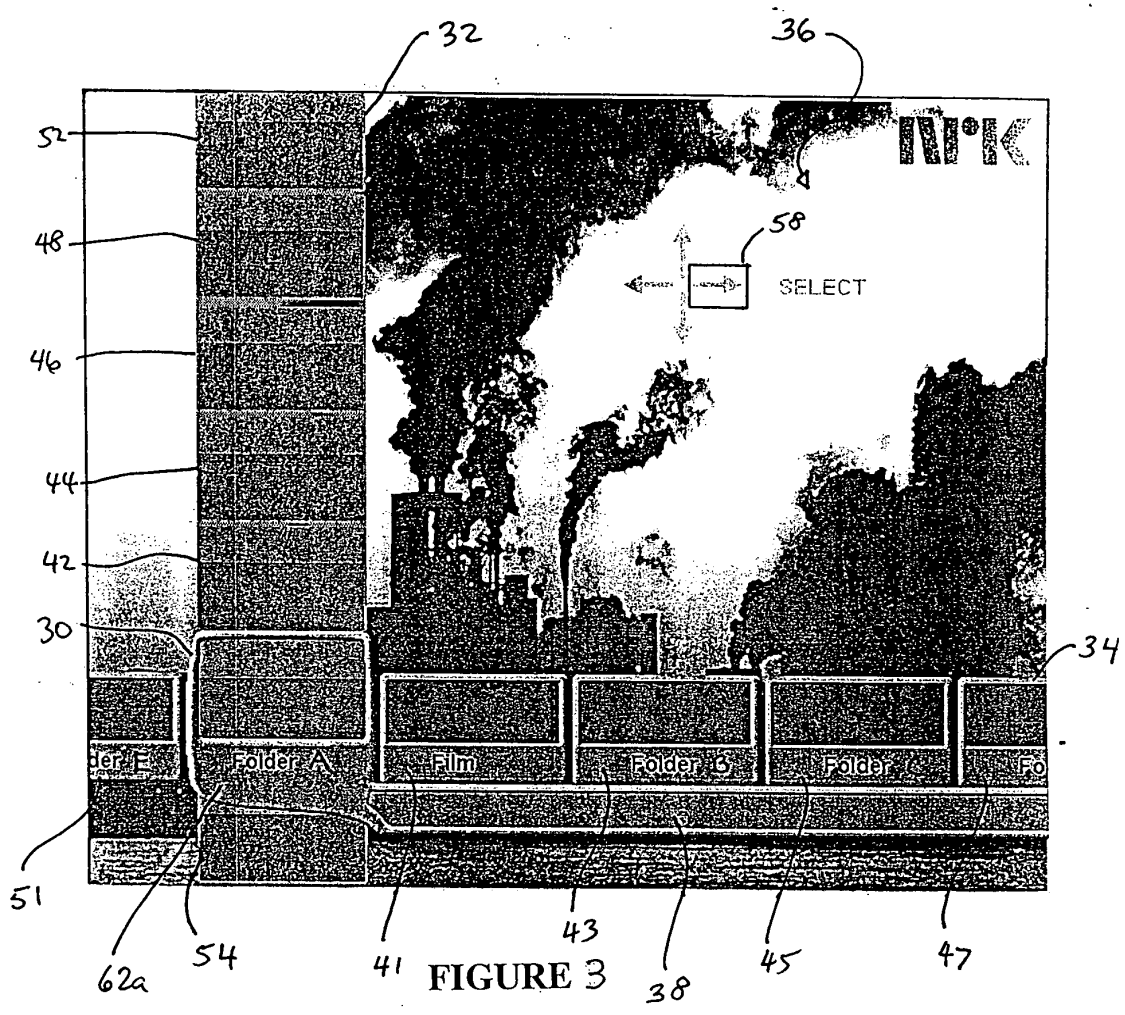


FIGURE 3

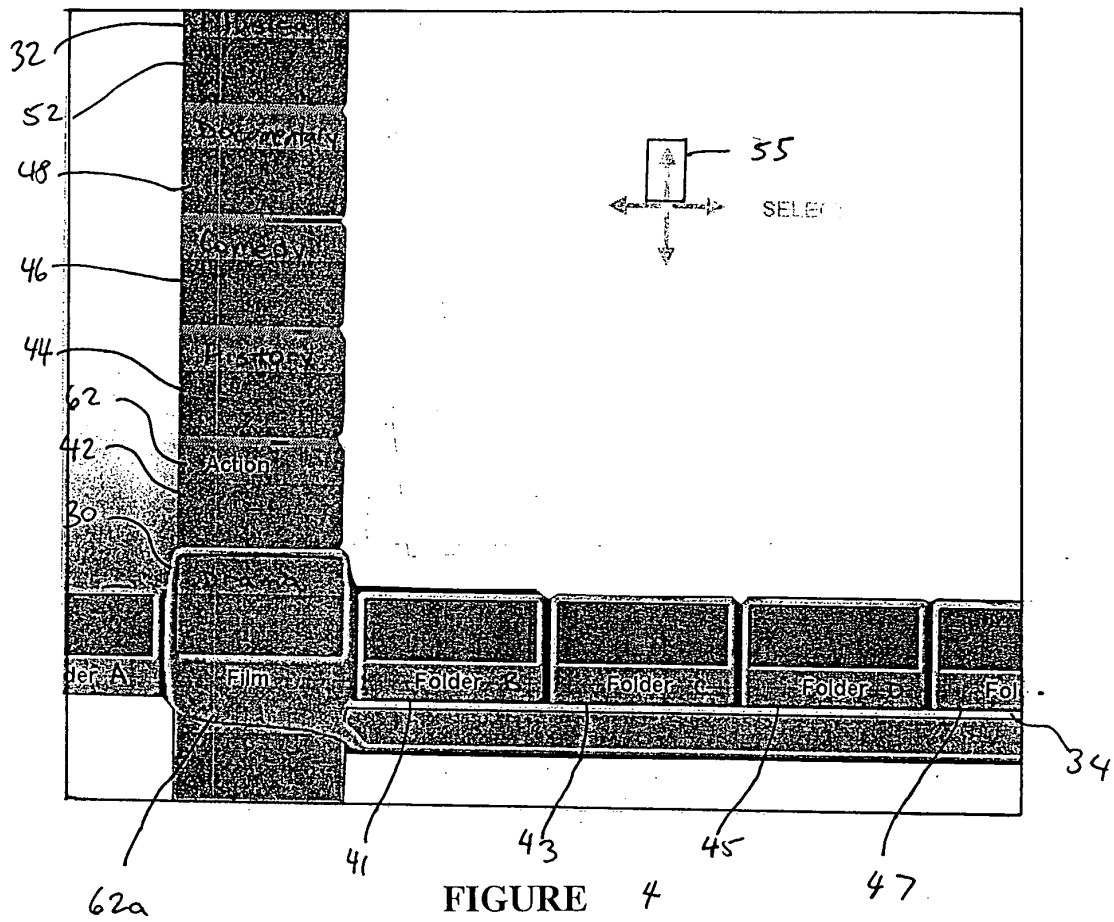


FIGURE 4

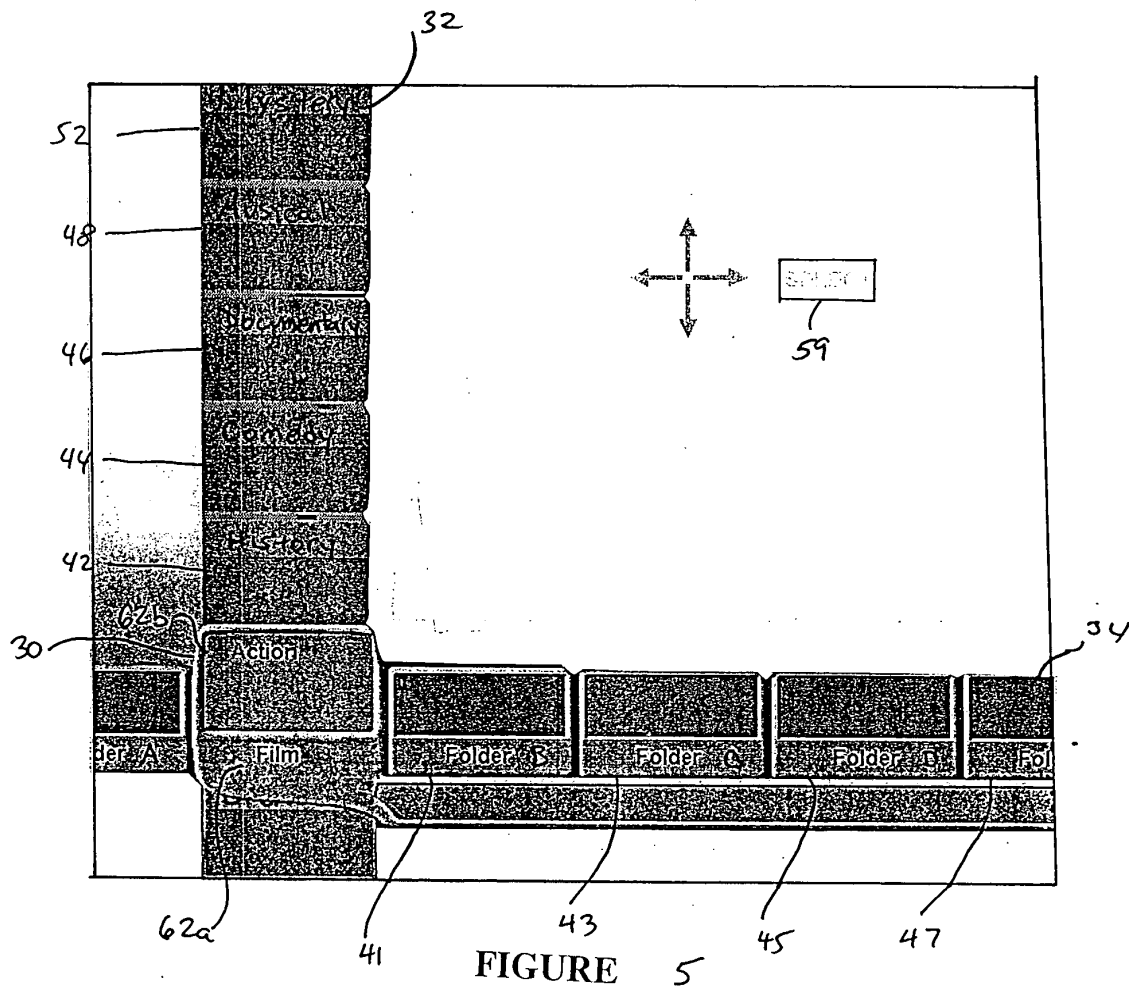


FIGURE 5

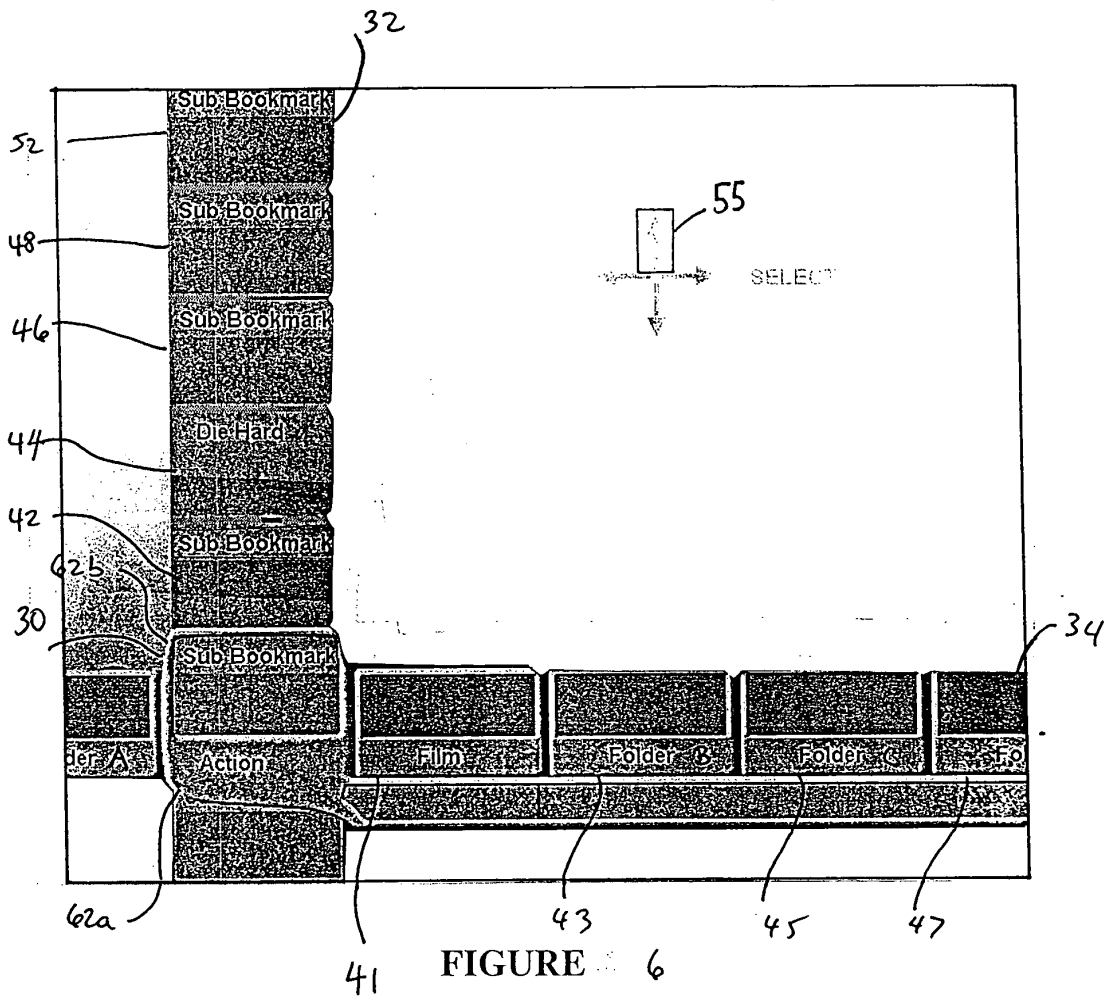


FIGURE 6

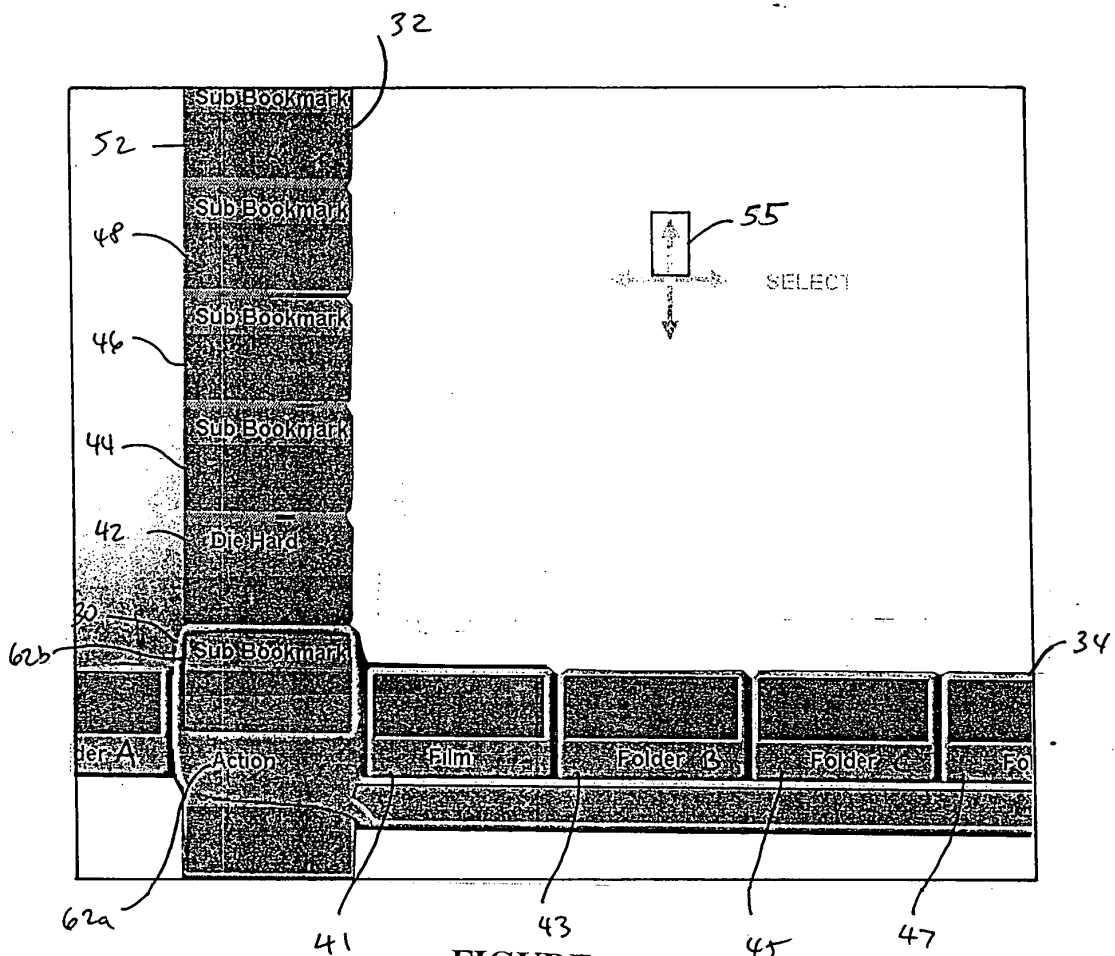
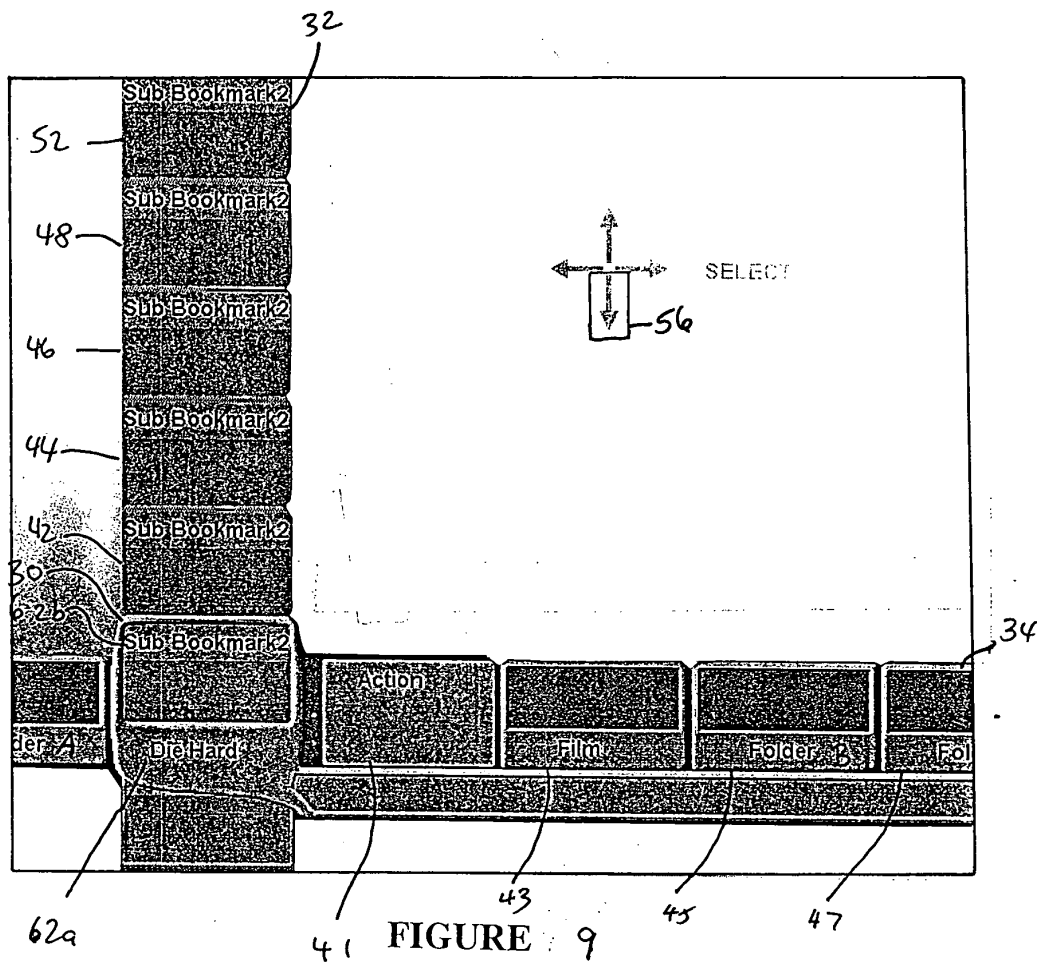


FIGURE 7




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 New York, NY 10176

Date Mailed: 08/22/2001

NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION
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jc970 U.S. PTO
06/28/01

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JC971 U.S. PTO
09/893850
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UTILITY PATENT APPLICATION TRANSMITTAL

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Assistant Commissioner for Patents
BOX PATENT APPLICATION
Washington, DC 20231

Dated: June 28, 2001

Sir:

Transmitted herewith for filing is the utility patent application of:

Inventor(s): Jonas BERGSTEN, Per SÖKJER

For: Method and Apparatus for Scrollable Cross-Point Navigation in a User Interface

Enclosed are:

- Transmittal letter (2x) with Fee Computation Sheet
- General Authorization For Payment of Fees (2x)
- Title Page, Specification, Claims 1 to 20 & Abstract (26 pages [total number of pages of application])
- Unexecuted Declaration and Power of Attorney (3 p.)
- 9 sheet(s) of drawing(s) (Figs. 1 to 9)
- Check for \$ 710 for filing fee
- Information Disclosure Statement
- PTO Form 1449 with copy (1 doc.) of cited reference
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FILING FEE COMPUTATION SHEET

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Assistant Commissioner for Patents
 BOX PATENT APPLICATION
 Washington, DC 20231

Dated: June 28, 2001

In re Application of: Jonas BERGSTEN et al.
For: Method and Apparatus for Scrollable Cross-Point Navigation in a User Interface

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APPLICATION FOR
UNITED STATES LETTERS PATENT

**METHOD AND APPARATUS FOR
SCROLLABLE CROSS-POINT NAVIGATION
IN A USER INTERFACE**

Inventors:

BERGSTEN, Jonas
SÖKJER, Per

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[0005] One such user interface that solves the aforementioned problems is disclosed in PCT Patent Publication No. WO 00/65429. In accordance with that user interface, a display on or associated with the electronic device presents to the user a pair of intersecting cross-point navigation bars. At least one of these bars is scrollable, and each bar displays one or more object fields. By selectively scrolling one or both of the bars, one at a time, by pressing appropriate buttons on the electronic device or its remote controller, the user positions a particular object field, or selection, at the point where the two bars intersect. When the user depresses a "select" button, the displayed object field is selected, and either a bar of the display transforms to the selected sub-field, or the electronic device performs the action corresponding to the displayed object field selected, thereby adjusting or setting the electronic device in the desired manner. By pressing another button when a particular object field is at the intersection of the two bars, the level of the object field displayed in the entire corresponding bar is changed so that the user is given a group of choices that fall under the selected object field category. Thus, for example, if the vertical bar has six object fields (A, B, C, D, E, and F), the horizontal bar will show sub-fields corresponding to the object field positioned at the intersection of the two bars (F-1, F0, F1, F2, F3, etc.), as shown in Fig. 2a of the patent publication. If the user depresses a predefined navigation key, sub-sub-fields (F2:-1, F2:0, F2:1, F2:2, F2:3, etc.) corresponding to the sub-field (F2) positioned at the intersection of the two bars are then displayed on the vertical bar, as shown in Fig. 2b of the patent publication. In actual use, words descriptive of, for example, instruction categories or actual instructions to be transmitted to the electronic device are displayed to the user, not merely letters and numbers. Such listing and selection of sub- and sub-sub-fields can go down to as many levels as is necessary to provide the user with a desired

selection of options. To navigate upward through the levels, a second predefined navigation key is depressed by the user, and, as a result, the visual content of the appropriate bar is changed to reflect a change in field level.

[0006] Although the user interface disclosed in PCT Patent Publication No.

5 WO 00/65429 is fully able to permit a user to satisfactorily navigate among a plurality of possible instructions or device settings arranged in a plurality of groups, sub-groups, sub-sub-groups, etc., it may be somewhat difficult for a user to determine where in the menu hierarchy of possible instructions and groups of instructions he currently is so that he can easily navigate to another desired available electronic device instruction or setting, or group of such instructions or
10 settings. This difficulty arises because only two levels of groups (or fields) are simultaneously displayed to the user. Whenever a group, sub-group, etc. is selected, the appropriate bar is overwritten by the sub-entries in the selected group or sub-group. Thus, no map is displayed showing generally where in the hierarchy of groups, sub-groups, etc. the user currently is located. As a result, a user unfamiliar with the hierarchy of the groups may be forced to
15 randomly press the navigation buttons repeatedly, thereby navigating up, down and/or through the levels, until he has found the desired instruction or group of instructions, or a group of instructions or an instruction that is familiar to the user to enable him to navigate to the instruction or group of instructions actually desired.

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SUMMARY OF THE INVENTION

[0007] The present invention provides a method and apparatus for controlling, adjusting and/or setting of electronic devices and appliances controlled by remote control devices, such as wireless and pointing devices, or also voice-controlled devices. The invention allows the user to navigate through a hierarchy of groups of commands or selections while continuously providing the user with information as to where the user is currently located in the hierarchical structure of groups so that navigation through the groups and individual selections is simplified.

[0008] Suitable electronic devices and appliances to be controlled include, for example, television sets, satellite receivers, set-top boxes, cable television controllers, computers, household equipment, telephones, mobile phones, personal digital assistants, DVD players, CD players, VCRs, stereo equipment, etc., especially appliances provided with user interfaces such as display screens for interaction with remote control and other key pad devices.

[0009] In accordance with the present invention, a scrollable cross-point navigation image is displayed on a user interface display to select a feature by combining two object fields. Two bars are displayed, each bar containing a plurality of panels, with each panel displaying a separate folder or particular setting. The two bars are positioned so that the bars overlap in a single focus panel. Preferably, the two bars are sized, shaped and positioned so as not to completely obscure the entirety of the display. As a result, a user can view the two bars, and can also view any programming or other information that is also being presented on the display.

[0010] The instructions, settings and/or selections that are available for selection by the user to adjust or set the electronic device are arranged in an associated database in one or more levels of groups (sub-groups, sub-sub-groups, etc.) so that settings, etc. of a similar nature are in

the same group, with the top most level being the most general, and the lowest most level being particular instructions. In between the top and bottom levels, there may be sub-levels which organize the contents of the database. The items in each level are linked to one or more items in immediately higher or lower levels, if any, to form a tree-like hierarchical structure.

5 [0011] When a user initially activates the user interface feature of the electronic device by entering the appropriate command on an input device, the user interface appears on a display on or associated with the electronic device being controlled. The focus panel displays (1) the user's current lowest level in the hierarchical structure of groups of settings or selections and (2) the next higher level, if any. The next higher level, if any, is shown in an adjoining panel on the
10 horizontal bar, the next higher level, if any, is shown in a next adjoining panel on the horizontal bar, and so on until there are no further higher levels to display, at which point the remaining upper-most level folders are displayed in the panels on the horizontal bar. In the panels of the vertical bar are sub-folders, if any, or individual settings, if any, that are within the folder appearing in the focus panel, that is, such sub-folders or settings that are of the same level as the
15 user's current lowest level in the hierarchical structure appearing in the focus panel. As the user descends down the folder hierarchy, the panels in the horizontal bar shift to the right and panels identifying levels between the current level and the top most level are displayed. As the user ascends through the folder hierarchy, the panels in the horizontal bar shift to the left. To
20 navigate up or down folder levels and to select a particular folder at any level, the user employs the input device to cause the bars, one at a time, to scroll up, down, left and right to cause a particular panel to be shifted into the focus panel and thereby navigate through the various levels of the hierarchical structure of groups of settings or selections. When the focus panel is

positioned at a desired folder, the user selects it with the input device. If a particular ultimate setting or instruction within a folder, sub-folder, etc., is selected by the user, the electronic device is instructed to perform the function of that setting or instruction. To move upward in the hierarchy to one of the folders shown in the horizontal bar to the right of the focus panel, the user simply uses the input device to scroll the horizontal bar as desired.

[0012] The user interface, thus, always displays the user's current location in the hierarchical structure and the path of the folder, sub-folder, and sub-sub-folder, etc., that the user descended through to get to the current location. Because this folder path information is continuously displayed to the user, navigation through the folder structure and the instructions or settings within that structure is immediately apparent and simple without the need for a user's manual explaining the structure of the folder structure.

[0013] Other objects and features of the present invention will become apparent from the following detailed description considered in conjunction with the accompanying drawings. It is to be understood, however, that the drawings are intended solely for purposes of illustration and not as a definition of the limits of the invention, for which reference should be made to the appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] In the drawings, wherein like reference numerals delineate similar elements throughout the several views:

FIG. 1 is a schematic block diagram illustrating one embodiment of means used
5 to accomplish a apparatus in accordance with the present invention;

FIG. 2 is a schematically diagram of a preferred embodiment of a user interface in accordance with the present invention; and

FIGS. 3, 4, 5, 6, 7, 8, and 9 show one embodiment of the present invention at various different stages of operation.

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DETAILED DESCRIPTION OF THE PRESENTLY PREFERRED EMBODIMENTS

[0015] Figure 1 is a schematic block diagram of one embodiment of an apparatus 10 in accordance with the present invention, comprising a UI objects database 12, a graphics library 14, a graphics generator 16, an externally supplied data means 18, a content database 20, an interaction interpreter 22, an input device 24, and a user interface 26.

[0016] The input device 24 is any means that can be employed by a user to enter commands to control the user interface 26 and can be any of a number of manual controllers, such as, for example, a hand-held remote control with a keypad for a television set-top box, a keyboard for a PC, a remote controlled computer mouse, or a control panel with a keypad for a microwave oven. When a user wants to change a setting of the interface 26, the input device 24 is manipulated, such as by the depressing of keypad buttons, to transmit a signal to the interaction interpreter 22. Preferably, as will become more apparent from the discussion below, the input device has directional keys (up, down, right, and left) and a “select” key which a user can depress to provide a selection command. The input device 24 may instead and/or also comprise means for detecting and interpreting spoken commands of the user. A spoken command device would for example, include a microphone, a data processor, a database containing vocabulary data, and speech recognition software to recognize voice commands of a user to the electronic device

[0017] An interaction interpreter 22 interprets signals received from the input device 24 and sends the corresponding instruction to a graphics generator 16. The interaction interpreter 22 transforms commands from the input device 24 to actions provided by the graphics generator 16.

[0018] The content database 20 contains information, and groups or folders of

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information which can be presented on the user interface 26, which is preferably a screen, such as a television screen, monitor or flat panel display, such as liquid crystal or a plasma display. Samples of such information could be, for example, names of object fields containing sub-object fields or finite objects and help-texts that are presented to a user upon entry by the use of the appropriate commands. An object field is the name of a class or group of settings, sub-fields of settings, or sub-sub-fields of settings, etc. An example of an object field is the category or group, "Films". A finite object is a direct setting of a feature for the electronic device. An example of a finite object is the particular film, "Die Hard". All material in the content database 20 can be altered and/or edited by a content provider, such as the original equipment manufacturer of the electronic device, or the service provider of material presented to the user and controlled through the user interface 26. Such a service provider would include a cable television company that transmits television programming, movies and other entertainment to a user. In addition, if desired, some or all of the material in the content database may be altered and/or edited by the user. For example, a user may want to delete certain television stations that are not of interest, the user may want to rename folders, or the user may want to add additional objects, folders, subfolders, etc. Such added material might include bookmarks or shortcuts to web pages or locally stored content (such as folders, documents, video files, music files, etc. on a memory hard drive), control settings to a connected device at the user's location (such as a CD, DVD or video tape player/recorder), etc.

20 [0019] Externally supplied data 18 represents any content that is in the content database 20 from any source.

[0020] The UI objects database 12 contains types of graphical objects that can be

presented on the user interface 26. The UI objects database 12 supplies a graphics library 14 with generic representations of the types of graphical objects. The graphics library 14 contains functions to manipulate the UI objects in the interface 26. The graphics library 14 supplies the graphics generator 16 with specific instances from the UI objects database 12.

5 [0021] The graphic generator 16 controls the graphical presentation of the user interface 26 as well as manipulation accomplished by a user. The graphics generator 16 performs actions signaled by the interaction interpreter 22 through collecting content from the content database 20 and by merging the content with the graphics library 14 and delivering presentation of a desired action to the user interface 26. The user interface 26 presents feedback of any action performed
10 by a user of the interface 26.

[0022] Figure 2 schematically illustrates a user interface 26 in accordance with one embodiment of the present invention. The user interface 26 has two intersecting bars, preferably, a vertical bar 32 and a horizontal bar 34. The bars 32, 34 are preferably perpendicular to one another and are positioned proximate edges of the display area of the user interface 26 so that
15 obstruction by the bars is minimized of any background picture 36, such as a television program, graphics, etc. Although the bars 32, 34 are shown as being positioned proximate the left and bottom edges of the user interface, alternatively, they may be at any other location, such as free floating at any location in the background picture 36, or may be positioned along adjacent edges of the user interface. In addition, although bars 32, 34 are shown as being linear in shape, they
20 may assume any shape, such as, for example, curved into two circular or oval lines. Each of the bars 32, 34 is comprised of a plurality of panels, with vertical bar comprising panels 54, 30, 42, 44, 46, 48 and 52, and with horizontal bar comprising panels 51, 30, 41, 43, 45, 47 and 49. Each

bar 32, 34 may comprise more or fewer panels, as desired. The two bars, 32, 34 intersect with a common panel, focus panel 30. Although the panels are show as being substantially rectangular in shape, they may assume any shape, such as square, oval, round, hexagonal, etc. Each of the panels preferably has one or more areas on which appears textual information and/or graphics.

5 For example, each panel of the vertical bar 32 has a smaller upper area 62 and a larger central area 60. Similarly, each panel of the horizontal bar 34 has a smaller lower area 62 and a larger central area 60. The focus panel 30, which is the panel where the vertical bar 32 and the horizontal bar 34 intersect, preferably has a larger central area 60a, a smaller lower area 62a, and a smaller upper area 62b. The areas 60, 60a, 62, 62a, and 62b of the panels are used to display

10 the textual information and/or graphics, as discussed below. The user interface 26 preferably also has an information field 38 positioned below the horizontal bar 34 where additional information can optionally be displayed. Finally, the user interface 26 preferably displays a plurality of possible navigation commands, shown as up, down, left and right arrows 55, 56, 57, 58 and a "Select" command 59. Although the navigation commands are shown as directed

15 arrows 55, 56, 57, 58, they may also be depicted as words or other pictures, such as pointing fists. The navigation and "Select" commands may be continuously displayed and highlighted when the user selects a particular command with the input device 24, or, alternatively, only displayed when a user actually selects that command. Although the command graphics 55, 56, 57, 58, 59 are show in the upper right of the user interface 26, they may be in any position.

20 Preferably, the command graphics 55, 56, 57, 58, 59 are omitted entirely from the display at all times. However, if the user interface is a mouse, the display command graphics, such as those shown, enable selection by the user of a command by clicking with the mouse's pointer on the

appropriate command graphic 55, 56, 57, 58, 59. Additional, if the display is a touch screen, command graphics may be displayed so that touching by the user of the appropriate graphic selects that command for execution.

[0023] The various portions of the bars 32, 34, any text or graphics on the bars 32, 34, and the commands 55, 56, 57, 58, 59, and are preferably suitably colored or shaded to contrast appropriately against the background picture 36 and other elements of the displayed information on the user interface 26 so that the user can easily discern all of the displayed information.

[0024] In operation, a user initially activates the user interface feature of the electronic device by entering the appropriate command on the input device 24. Thereupon, the user interface 26 appears on the appropriate display on or associated with the electronic device. For certain electronic devices where information of interest is continuously shown, such as entertainment programming on a television monitor, for example, it is desirable that the user interface 26 only appear when the user wants to change a setting of the television. For other electronic devices where the associated display does not provide any other information, such as, for example, a microwave oven, the user interface 26 might be continuously displayed.

[0025] All possible instructions, settings and/or selections available to the user to adjust or set the electronic device are arranged in the content database 20 in one or more levels of groups (sub-groups, sub-sub-groups, etc.) so that settings, etc. of a similar nature are in the same group. The items of a first level are very general. In a second level, the items are more detailed than in the first level, but are still somewhat general. In a third level, the items are even more detailed than in the second level. And so on. The items are linked according to their contents. This means that an item of the first level is linked to one or more items of the second level.

Additionally, an item of the second level is linked to one or more items of the third level. And so on. Thus, with this linking structure, the items are arranged in a tree-like manner or hierarchical structure with any branch of the tree constituting a further level. Since, as discussed above, the user and/or the service provider may alter and/or edit the groups shown at the various levels, a folder in one particular level, for example, may have more or fewer sub-groups, sub-sub-groups, etc. than other folders in that same level. Additionally, it is also possible that the user and/or service provider may want a particular ultimate selection or device command that is frequently used (and which one might expect to be relegated only to a sub-sub-group) to be positioned with folders at the highest level, for example.

10 [0026] As discussed in detail below with reference to Figures 3 to 9 in which a particular embodiment is shown, the user's current location within the folder hierarchy is continuously displayed to the user in the horizontal bar 34. The focus panel 30 displays (1) the user's currently selected lowest level in the hierarchy in area 62a and (2) the next higher level, if any, in the area 62b. As the user descends into the folder hierarchy, the next higher level, if any, is shown in panel 41, the level above the level shown in panel 41 is shown in panel 43, and so on to the right across horizontal bar 34 until there are no further higher levels to display, at which point the remaining upper-most level folders are displayed in the panels on the horizontal bar 34. As the user descends down the folder hierarchy, the panels in the horizontal bar 34 shift to the right and panels identifying levels between the current level and the top most level are displayed. As 20 the user ascends through the folder hierarchy, the panels in the horizontal bar 34 shift to the left. To navigate up or down folder levels and to select a particular folder at any level, the user employs the input device 24 to activate "up", "down", "left", "right" and "SELECT" commands

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which cause the bars 32, 34 to scroll in the selected direction, as indicated in Figure 2) to cause a particular panel to be shifted into the focus panel 30. In the panels of the vertical bar 32 are sub-folders, if any, or individual settings, if any, that are within the folder appearing in area 62a of focus panel 30, that is, such sub-folders or settings that are of the same level as the user's current lowest level in the hierarchical structure appearing in area 62b of the focus panel 30.

[0027] To more fully understand the present invention, one embodiment of the present invention is shown in operation in Figures 3 to 9, in which the numbering of the various elements has been simplified relative to Figure 2. In this particular embodiment, the electronic device is a television with a cable television set-top box and the user interface is used to select a particular entertainment program from among a plurality of possible entertainment programs. The present invention is not restricted to such an electronic device, and, as stated above can be used in conjunction with many other types of electronic devices.

[0028] Referring initially to Figure 3, horizontal bar 34 is comprised of six panels 51, 30, 41, 43, 45 and 47. In the lower areas 62 of the panels is text describing the name of the folder, group or field represented by the respective panels. The horizontal panels depict folders of categories of possible entertainment programming available to the user. Although all of the panels show the generic titles, "Folder A", "Folder", etc., except panel 41 which reads "Film", in actual operation the other panels would depict titles of other entertainment programming categories, such as, for example, "network television programming", "music video", "channel programming guide", "internet", etc. Rather than or in addition to text, graphics may be depicted on the panels, such as, for example, a movie projector for "Film", a television set for "network television programming", etc. The vertical bar 32 is comprised of seven panels 54, 30, 42, 44,

46, 48 and 52. These vertical panels depict sub-groups, bookmarks or selections, if any, collected in the folder identified in area 62a of focus panel 30. Although all of these panels except panel 30 are blank in Figure 3, in actual operation, each panel would display a title or graphic representative of its contents. The bars 32, 34 are positioned proximate edges of the display so that a great proportion of the current programming 36 is visible. Information field 38 is blank in Figure 3, but in practice would display relevant information, such as the date and time, the status of the electrical device, error messages, a short help message, etc. which are associated with the folder or bookmark identified in area 62b of focus panel 30.

[0029] As shown in Figure 3, the positioning of the bars 32, 34 is preferably selected so as to minimize obstruction of a background picture 36 that is being shown on the display. In Figures 4 to 9 the background picture 36 is omitted merely to simplify the Figures, although in practice the background picture, if any, would be displayed.

[0030] In this example, the user wants to view a "Film", the panel for which is to the right of focus panel 30. Consequently, the user uses the input device 24 to enter the "right" command once, as shown by the highlighted right arrow 58. The horizontal bar 34 shifts one position so that the focus panel 30 now shows "Film" in area 62a, as shown in Figure 4. The vertical bar now shows in its panels the sub-groups, bookmarks or selections collected in the folder entitled "Film". One of panel 42 shows the category "Action" in its area 62, referring to action films. Other panels in vertical bar 32 display other exemplary categories of "Films", "Drama" (panel 30), "History" (panel 44), "Comedy" (panel 46), "Documentary" (panel 48), and "Musical" (panel 52).

[0031] The user wants to view an Action film, the panel for which is up from the focus

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panel 30. Consequently, the user employs the input device 24 to enter the “up” command once, as shown by the highlighted up arrow 55. The vertical bar shifts one position so that the focus panel 30 now shows the sub-group “Action” in area 62b and the name for the group “Film” in area 62a, as shown in Figure 5. To display the action films available, the user enters the “Select” command on the input device 24, as shown by the highlighted “SELECT” command 59. Upon selection, as shown in Figure 6, the name for the group selected, “Film”, is then shifted to the right to panel 41, the name for the selected sub-group or bookmark, in this case “Action”, is substituted into area 62a of focus panel 30, and all of the available action films are shown on the panels of vertical bar 32. Vertical bar 32 now shows all sub-bookmarks categorized under the bookmark “Action” and the folder “Film”.

[0032] One of the available action films is “Die Hard”, the title of which appears in panel 44 that is two panels up from focus panel 30. Although “Sub Bookmark” is shown for the other panels of the vertical bar, in practice the title of other available action films would be displayed in the panels. In a first step to select the film “Die Hard”, the user enters the “up” command a first time, as shown by the highlighted up arrow 55. The vertical bar shifts one position so that the “Die Hard” panel shifts from panel 44 to panel 42, as shown in Figure 7. In a second step to select the film “Die Hard”, the user enters the “up” command a second time, as shown by the highlighted up arrow 55. The vertical bar shifts one position so that the “Die Hard” panel shifts from panel 42 to focus panel 30, as shown in Figure 8, with “Die Hard” appearing in area 62b. Thus, in areas 62b of panels 42, 44, 48 and 52 appear sub-bookmarks (or selections) that are of the same level as the sub-bookmark “Die Hard” appearing in area 62b of focus panel 30.

[0033] To see what options are available for the sub-bookmark “Die Hard”, under the

bookmark "Action" in the folder "Film", the user activates the select command, as shown by the highlighted "SELECT" command 59. Upon selection of the sub-bookmark "Die Hard", as shown in Figure 9, the name for the group selected, "Film", is then shifted to the right to panel 43, the name for the selected sub-group or bookmark "Action" is shifted to the right to panel 41, the name for the selected sub-bookmark "Die Hard" is placed into area 62a of focus panel 30, and the available sub-sub-bookmarks (each labeled as "Sub Bookmark2") for "Die Hard" are displayed in the vertical bar 32. Although in Figure 9 panels 42, 44, 46, 48 and 52 all merely show the title "Sub Bookmark2", in practice various selections would be shown such as, for example, "Movie", "Movie Trailer #1", "Movie Trailer #2", "Director's Commentary", "Filming Special Effects", or "Scene Selection" which, if selected, would list as sub-sub-sub bookmarks, various scenes in the film "Die Hard" that can be viewed. The user can then select the "Sub Bookmark2" of interest for viewing. If the sub-sub-bookmark "Sub Bookmark2" selected is itself a folder containing additional sub-sub-sub-bookmarks, the panels of horizontal bar 34 are shifted to the right by one position and the areas 62a and 62b of focus panel 30 are appropriately modified.

[0034] As shown in Figure 9, even though the user has descended down a number of levels in the folder hierarchy, the current location is immediately apparent: panel 43 shows folder "Film", panel 41 shows bookmark "Action", area 62a of focus panel 30 shows sub-bookmark "Die Hard", and area 62b of focus panel 30 shows sub-sub-bookmark "Sub-Bookmark2".

[0035] If the user wanted to move upward in the folder hierarchy, the appropriate commands (up, down, left, right, and select) are entered and the horizontal and vertical bars 32, 34 are then appropriately modified. Thus, if the user wanted to ascend to the level, shown in

Figure 3, from the point shown in Figure 9, the user would merely enter the “left” command one time, as is evident from the fact that in Figure 9 the panel “Film” is shown as being two positions away from the focus panel 30.

[0036] Because the user’s current location is always apparent by a display of the folder path on the horizontal bar 34 irrespective of where in the folder hierarchy the user is currently located, navigation by the user up and down and across the folder hierarchy is apparent and simple to accomplish without requiring the user to study a lengthy detailed written user’s manual.

[0037] To further ease understanding of the hierarchical structure of the folders and sub-folders, etc., shown on the bars 32, 34, each level of folders preferably have a different color or coloring scheme. For example, the top level folders are green with black type, while at the next level down the bookmarks are blue with black type, and at the next level down the sub-bookmarks are red with white type, etc.

[0038] Although in the above-described embodiment the hierarchical structure of the user’s current location is displayed in the panels on horizontal bar 34, alternatively this information may be displayed in the vertical bar 32 so that the information displayed in the bars 32, 34 are switched completely. Additionally, the names of the folders, bookmarks, etc. may be presented at any position on the panels, and instead of text, may be in graphical form and/or may also include graphics, as appropriate or desired.

[0039] Although the bars 32, 34 are shown as linear, they may be virtual loops so that when the user scrolls through the bar to one end, the next panel that is presented is the panel at the other end. Thus, if the loop comprises only the folders shown, after scrolling the horizontal

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are appropriate for the particular electronic device being controlled. For example, if the electronic device is a microwave oven, the folders at the top level might include categories of heatable food dishes, such as "main dishes", "snacks", "beverages", etc., and lower sub-levels for these folders might include other general categories such as "uncooked meal", "reheated meal", "frozen meal", with sub-sub-folders including particular meals such as "beef stew", "lasagna", "pizza", "fish", "French fries", "corn", etc.

[0044] Thus, while there have been shown and described and pointed out fundamental novel features of the present invention as applied to a preferred embodiment thereof, it will be understood that various omissions and substitutions and changes in the form and details of the devices illustrated, and in their operation, may be made by those skilled in the art without departing from the spirit of the present invention. For example, it is expressly intended that all combinations of those elements and/or method steps which perform substantially the same function in substantially the same way to achieve the same results are within the scope of the invention. Substitutions of elements from one described embodiment to another are also fully intended and contemplated. It is also to be understood that the drawings are not necessarily drawn to scale but that they are merely conceptual in nature. It is the intention, therefore, to be limited only as indicated by the scope of the claims appended hereto.

What is claimed is:

1. A method for displaying information in a display associated with an electronic device, comprising:

organizing a plurality of information entries into a hierarchy comprising a plurality of groups, at least one of which groups having at least one sublevel of subgroups; and

displaying panels on a display associated with an electronic device, the panels being arranged into two bars of panels with a common focus panel, each of the panels being linked to and identifying one of (a) one of the plurality of information entries, (b) one of the groups, and (c) one of the subgroups,

wherein the focus panel identifies (a) a currently selectable lowest level in the hierarchy and (b) the next higher level, if any,

wherein levels, if any, in the hierarchy higher than that displayed in the focus panel are identified in succeeding adjoining panels of a first of the two bars, other panels of the first bar identifying highest level groups in the hierarchy, and

wherein panels of the second of the two bars each identify one of (a) information entries, if any, (b) groups, if any, and (c) subgroups, if any, of the same level in the hierarchy as the currently selectable lowest level in the hierarchy identified in the focus panel.

2. The method of claim 1, wherein the two bars are sized and positioned on the display so as to permit viewing of a substantial portion of a background image presented on the display.

3. The method of claim 1, wherein the two bars are perpendicular to one another.

4. The method of claim 3, wherein each of the two bars are positioned on the display to be proximate an edge of the display.

5. The method of claim 3, wherein each of the two bars are positioned on the display to be parallel to an edge of the display.

6. The method of claim 1, wherein the two bars are displayed on the display only upon entry of a command by a user.

7. The method of claim 1, wherein upon entry by the user on an input device of a selecting command, the electronic device performs an action corresponding to an information entry identified in the focus panel.

8. The method of claim 1, wherein a currently selected lowest level in the hierarchy identified in the focus panel is changed upon the entry of a navigation command by the user on an input device.

9. The method of claim 1, wherein information entries, groups, or subgroups

linked to the panels are identified on the panels by at least one of text and graphics.

10. The method of claim 1, wherein at least one of the panels is one of semi-transparent and transparent.

11. An apparatus for displaying information in a display associated with an electronic device, comprising:

a database storing a plurality of information entries in a hierarchy comprising a plurality of groups, at least one of which groups having at least one sublevel of subgroups; and

a means for displaying panels on a display associated with an electronic device, the panels being arranged into two bars of panels with a common focus panel, each of the panels being linked to and identifying one of (a) one of the plurality of information entries, (b) one of the groups, and (c) one of the subgroups,

wherein the focus panel identifies (a) a currently selectable lowest level in the hierarchy and (b) the next higher level, if any,

wherein levels, if any, in the hierarchy higher than that displayed in the focus panel are identified in succeeding adjoining panels of a first of the two bars, other panels of the first bar identifying highest level groups in the hierarchy, and

wherein panels of the second of the two bars each identify one of (a) information entries, if any, (b) groups, if any, and (c) subgroups, if any, of the same level in the hierarchy as the currently selectable lowest level in the hierarchy identified in the focus panel.

12. The apparatus of claim 11, wherein the two bars are sized and positioned on the display so as to permit viewing of a substantial portion of a background image presented on the display.

13. The apparatus of claim 11, wherein the two bars are perpendicular to one another.

14. The apparatus of claim 13, wherein each of the two bars are positioned on the display to be proximate an edge of the display.

15. The apparatus of claim 13, wherein each of the two bars are positioned on the display to be parallel to an edge of the display.

16. The apparatus of claim 11, wherein the two bars are displayed on the display only upon entry of a command by a user.

17. The apparatus of claim 11, wherein upon entry by the user on an input device of a selecting command, the electronic device performs an action corresponding to an information entry identified in the focus panel.

18. The apparatus of claim 11, wherein a currently selected lowest level in the hierarchy identified in the focus panel is changed upon the entry of a navigation command by the

ABSTRACT

Method and apparatus for controlling an electronic device by navigating through a hierarchy of groups of commands while continuously providing the current location and path in the hierarchical structure. A displayed scrollable cross-point navigation image has two bars, each containing panels corresponding to a separate folder, etc. At the intersection of the bars is displayed the current lowest level and the next upper level, if any. The next higher level is shown in an adjoining panel on a first bar, the next higher level in a next adjoining panel on that bar, until there are no further higher levels to display, at which point the remaining upper-most level folders are displayed. The second bar displays sub-folders or settings within the folder in the focus panel. Moving in the folder hierarchy causes the panels in the first bar to shift to display all intervening levels through the top level.

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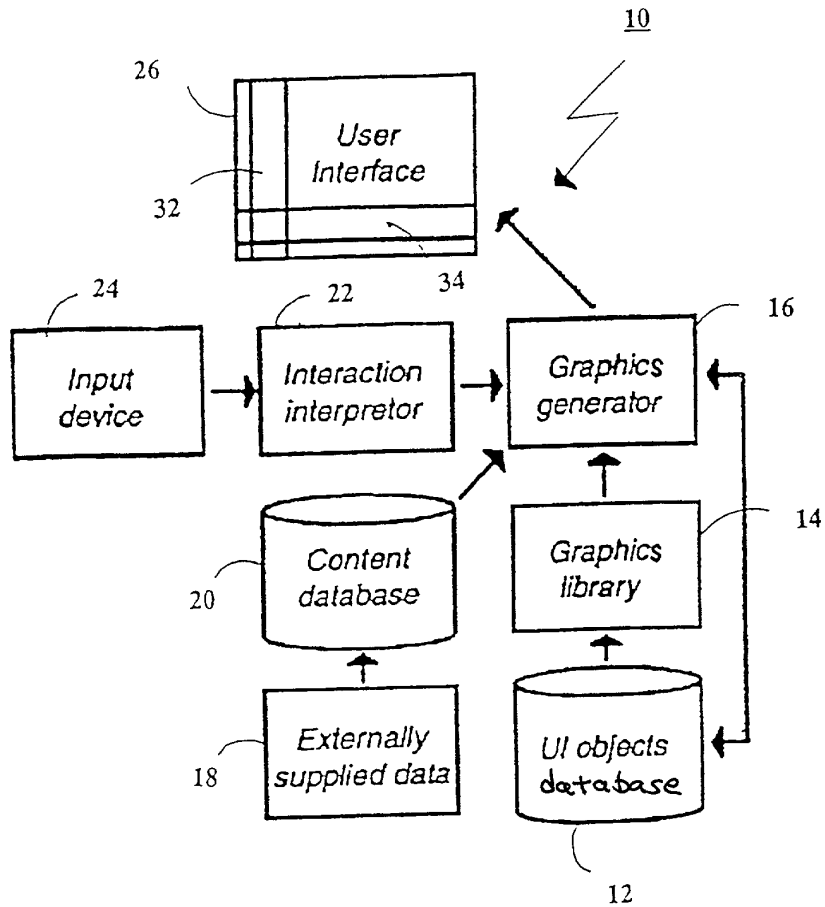


FIGURE 1

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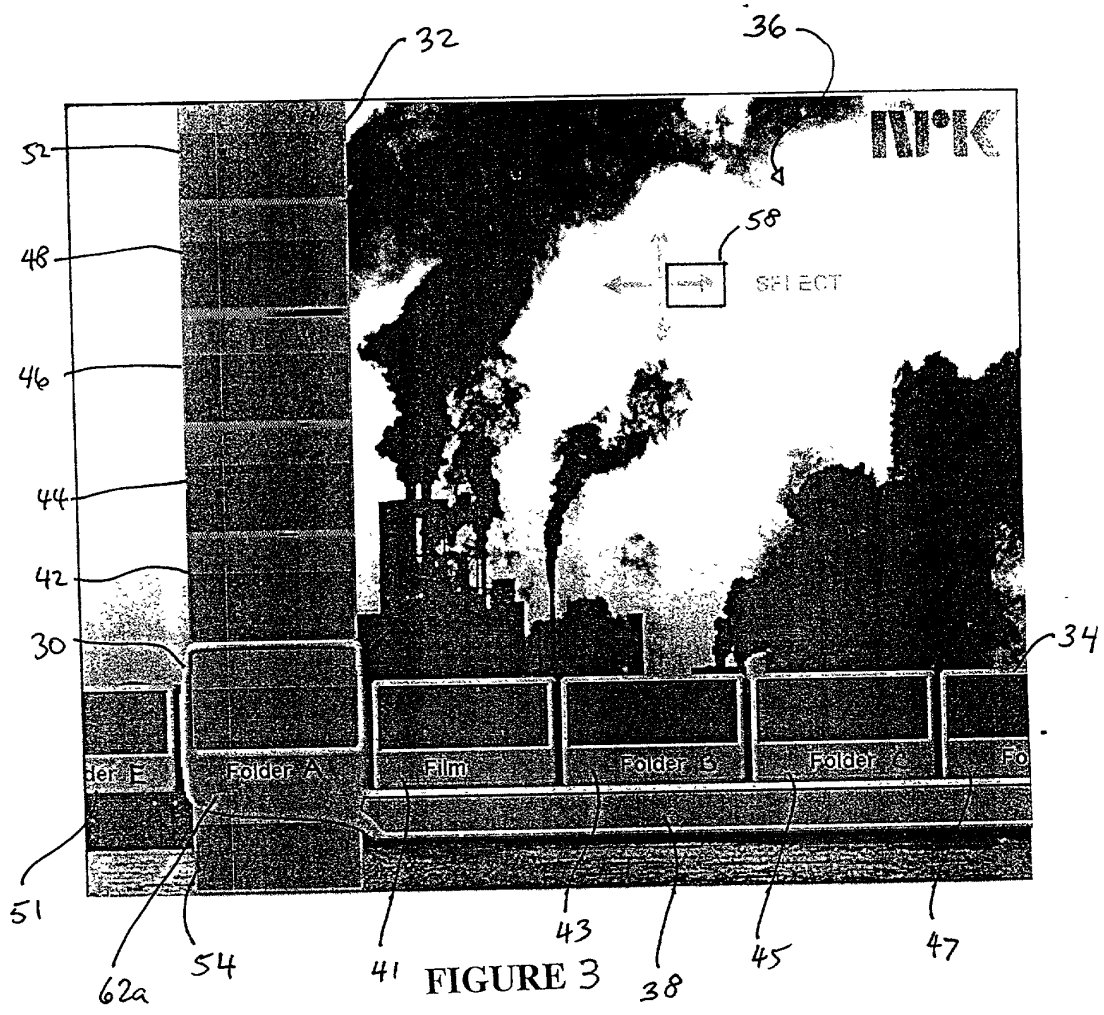
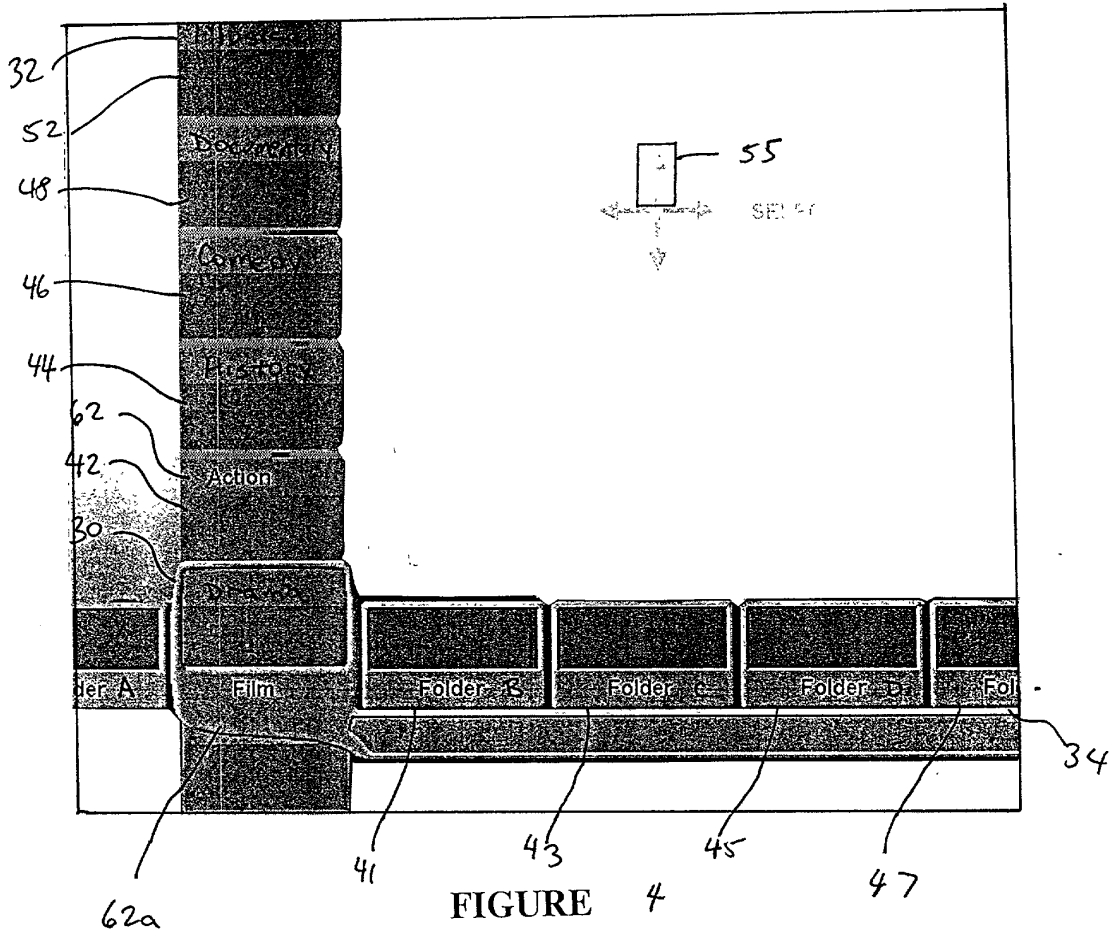


FIG. 290-0986660



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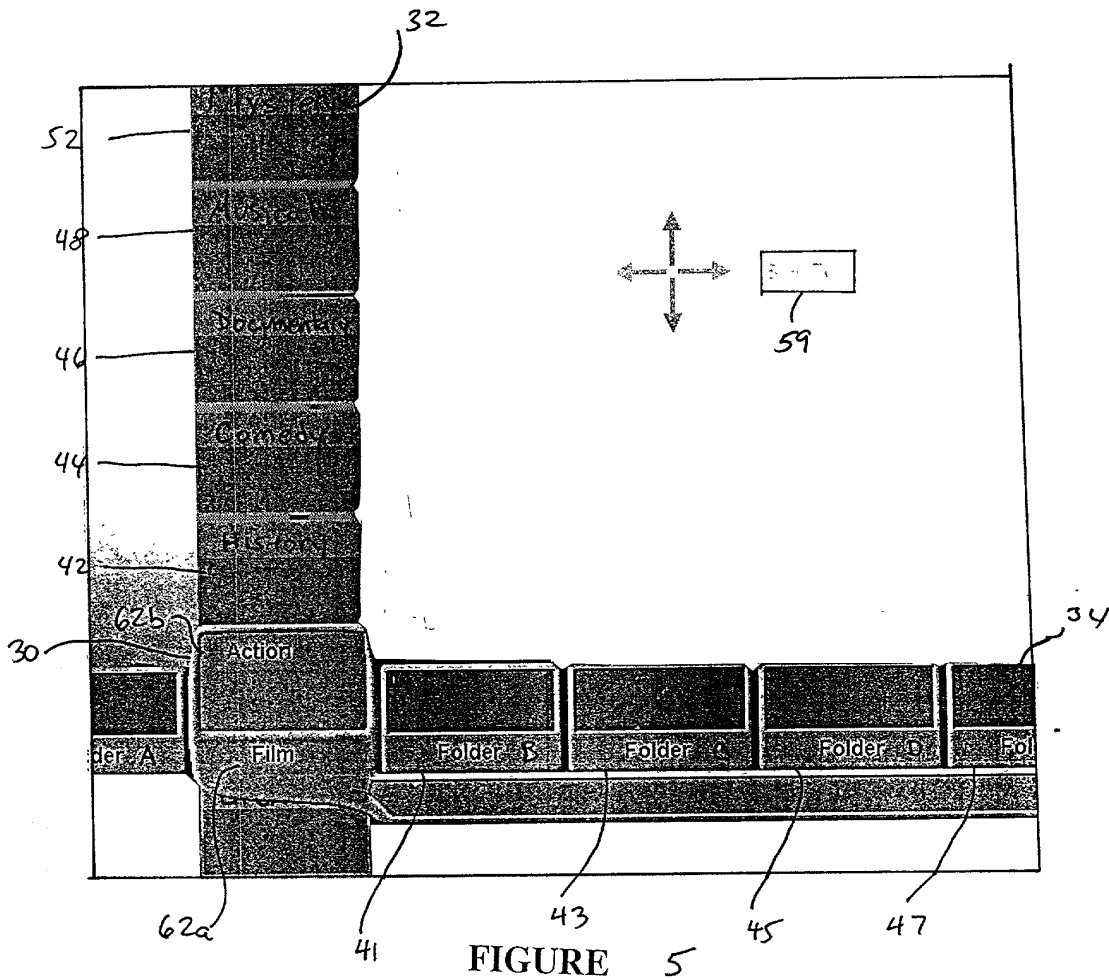


FIGURE 5

FIG. 290-058E660

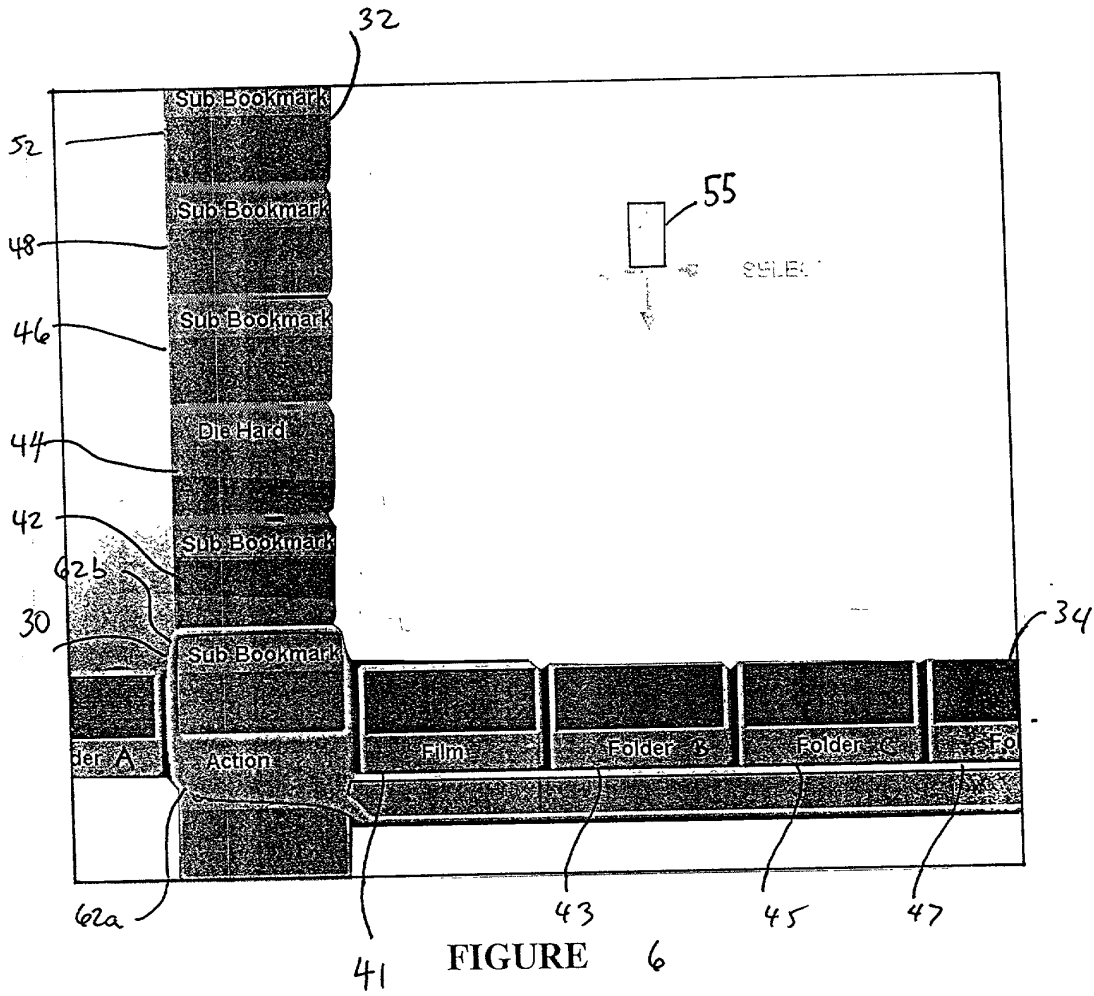
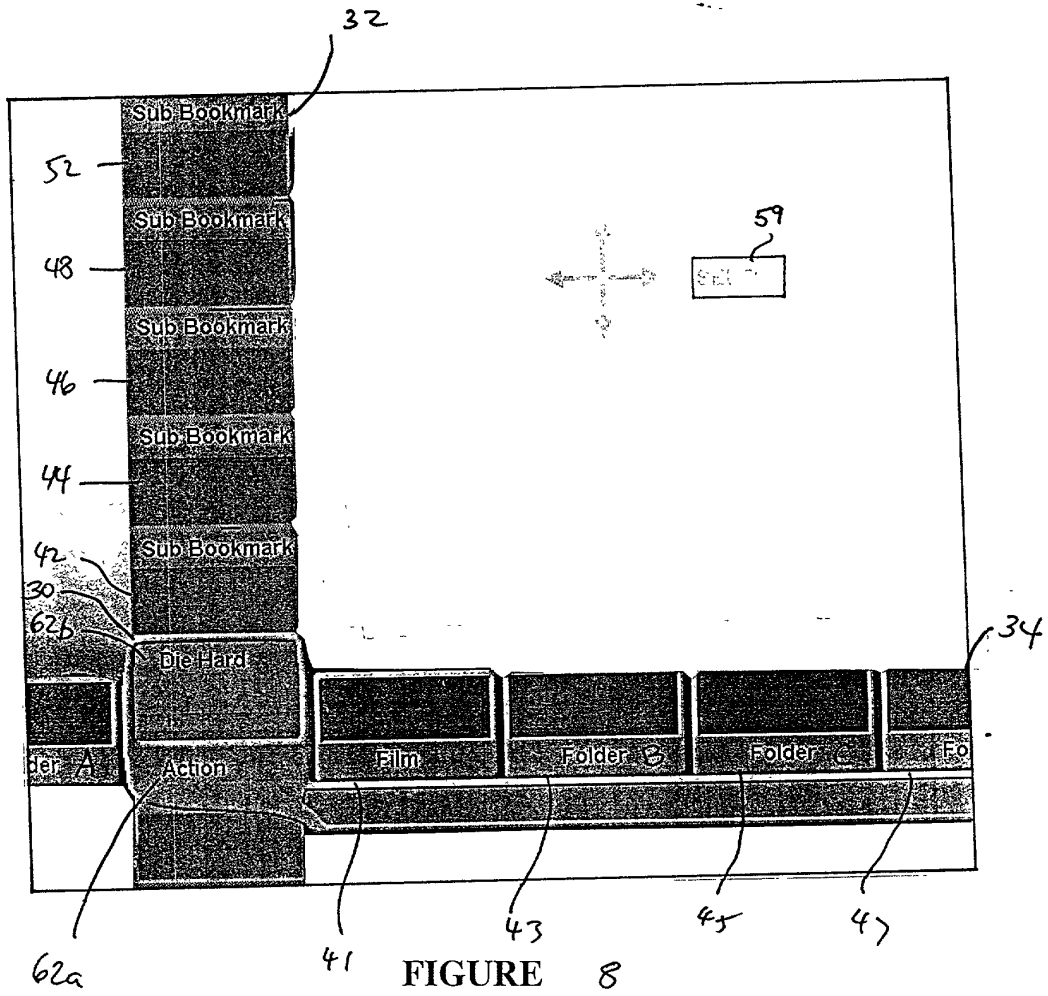


FIGURE 6

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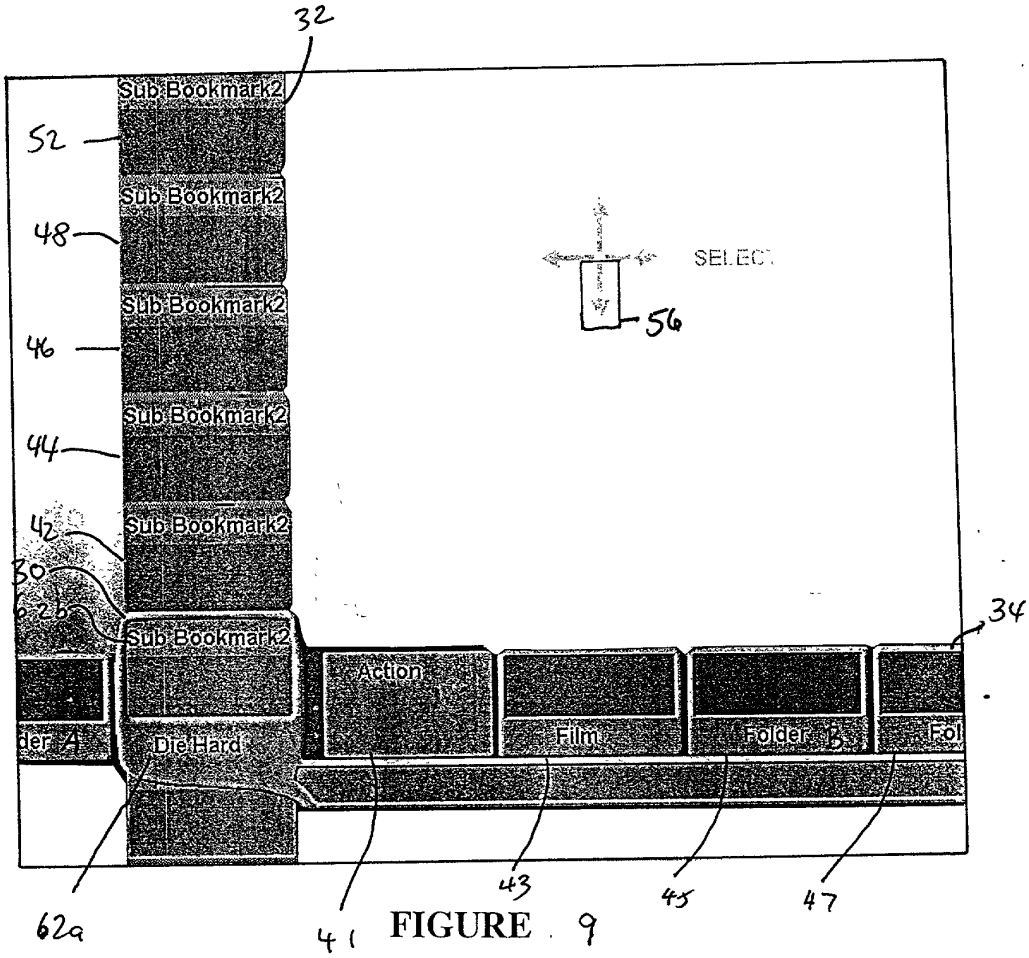


FIGURE 9

Address all telephone calls to Michael C. Stuart, Esq. at telephone No. (212) 687-2770.

Address all correspondence to:

Michael C. Stuart, Esq.
Cohen, Pontani, Lieberman & Pavane
551 Fifth Avenue, Suite 1210
New York, New York 10176

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Inventor's signature: _____

Dated: _____
Month/Day/Year

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SE-58231 Linköping

Citizenship: **Swedish**

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SE-58231 Linköping

TELEPHONE 03165860

Full Name of Second Joint Inventor: Per SÖKJER

Inventor's signature: _____

Dated: _____
Month/Day/Year

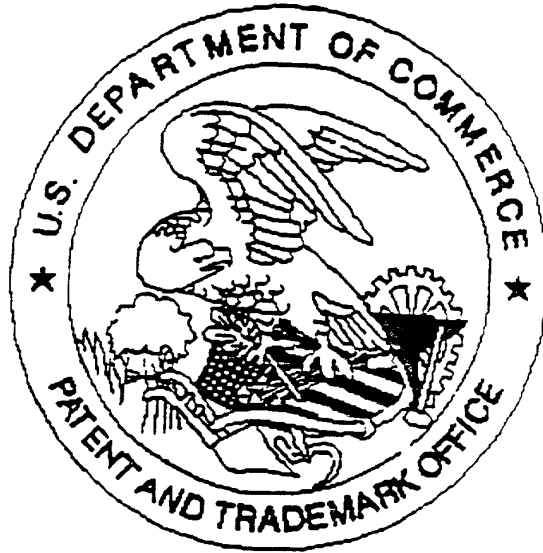
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Class	Subclass
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PATENT NUMBER

U.S. UTILITY Patent Application

SCANNED *MA* O.I.P.E. *Redy o.a. LR* PATENT DATE

APPLICATION NO.	CONT./PRIOR	CLASS	SUBCLASS	ART UNIT	EXAMINER
09/893850		340 <i>345</i>	853	2602	J. CABEC

APPLICANTS
Jonas Bergsten
Per Sokjer

TITLE
Method and apparatus for scrollable cross-point navigation in a user interface

PTO-2040
12/99

ISSUING CLASSIFICATION									
ORIGINAL				CROSS REFERENCE(S)					
CLASS		SUBCLASS		CLASS		SUBCLASS (ONE SUBCLASS PER BLOCK)			
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725	725, 841-843, 44,45, 46,47, 52,61	" "	" "

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SEARCH NOTES (INCLUDING SEARCH STRATEGY)		
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FORMALITY REVIEW	<i>MM</i>	572	08-21-01
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INDEX OF CLAIMS

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- A Appeal
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Claim	Final	Original	Date
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Attorney Docket No.: 4925-119

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Dated: June 28, 2001

Sir:

Transmitted herewith for filing is the utility patent application of:

Inventor(s): Jonas BERGSTEN, Per SÖKJER

For: Method and Apparatus for Scrollable Cross-Point Navigation in a User Interface

Enclosed are:

- Transmittal letter (2x) with Fee Computation Sheet
- General Authorization For Payment of Fees (2x)
- Title Page, Specification, Claims 1 to 20 & Abstract (26 pages [total number of pages of application])
- Unexecuted Declaration and Power of Attorney (3 p.)
- 9 sheet(s) of drawing(s) (Figs. 1 to 9)
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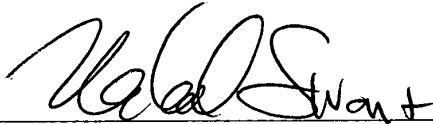
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Priority is claimed for this invention and application, corresponding applications having been filed in on , No. , on , No. , on , No. , on , No. , on , No. , on , No. , respectively.

Respectfully submitted,
COHEN, PONTANI, LIEBERMAN & PAVANE

By: 
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For: Method and Apparatus for Scrollable Cross-Point Navigation in a User Interface

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06/28/01

In re Application of	
Jonas BERGSTEN et al.	
Serial No.:	n/a
Filed:	concurrently
For:	Method and Apparatus for Scrollable Cross-Point Navigation in a User Interface

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Respectfully submitted,
COHEN, PONTANI, LIEBERMAN & PAVANE

By Michael C. Stuart
Michael C. Stuart, Reg. No. 35,698
551 Fifth Avenue, Suite 1210
New York, New York 10176
(212) 687-2770

Dated: June 28, 2001

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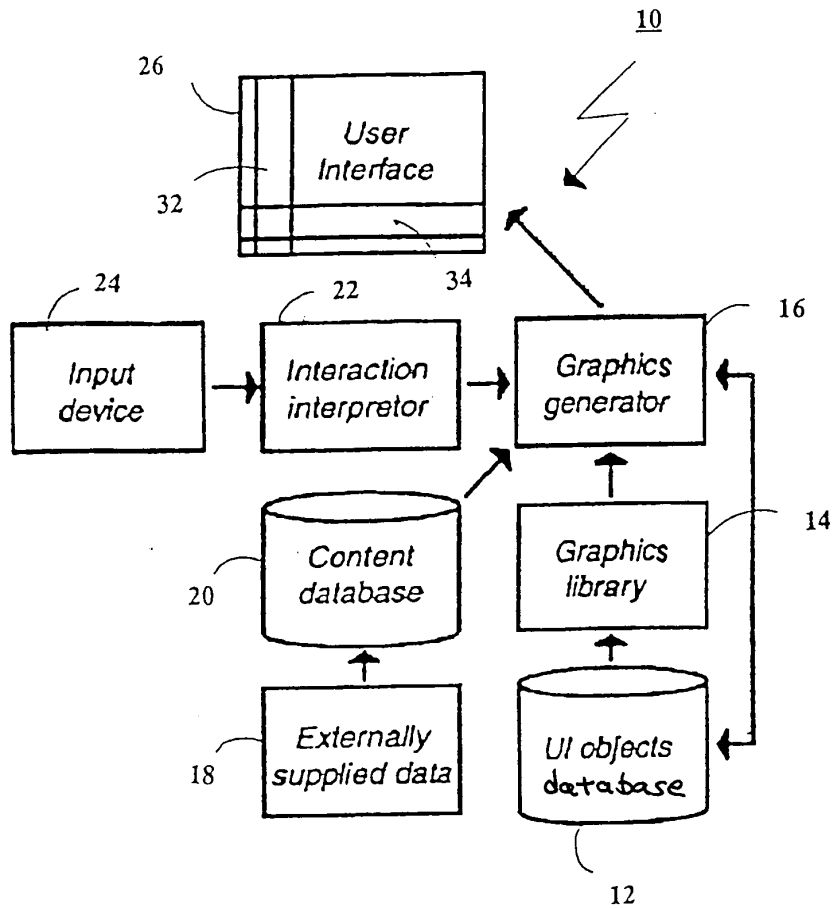


Figure 1

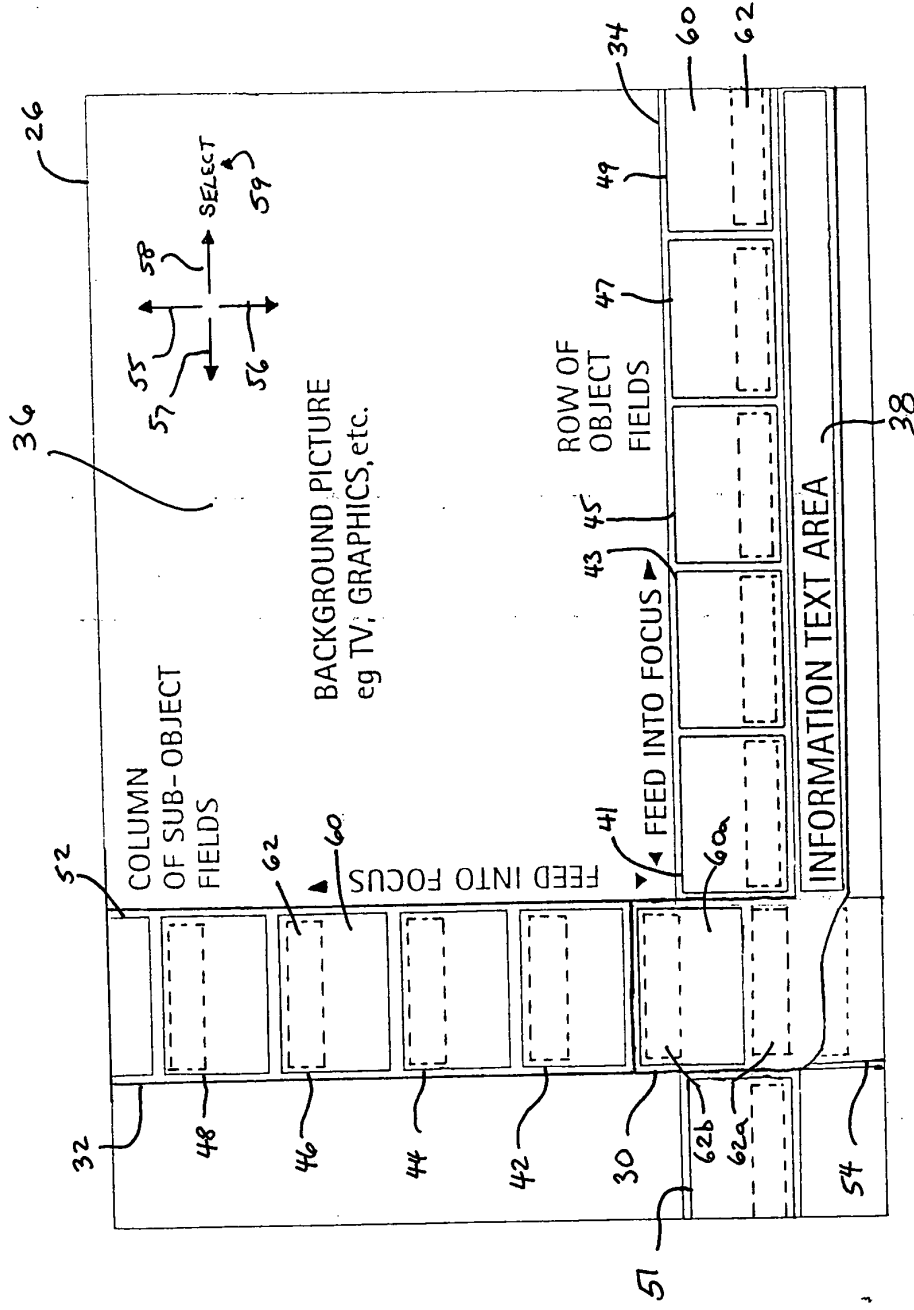


Figure 2

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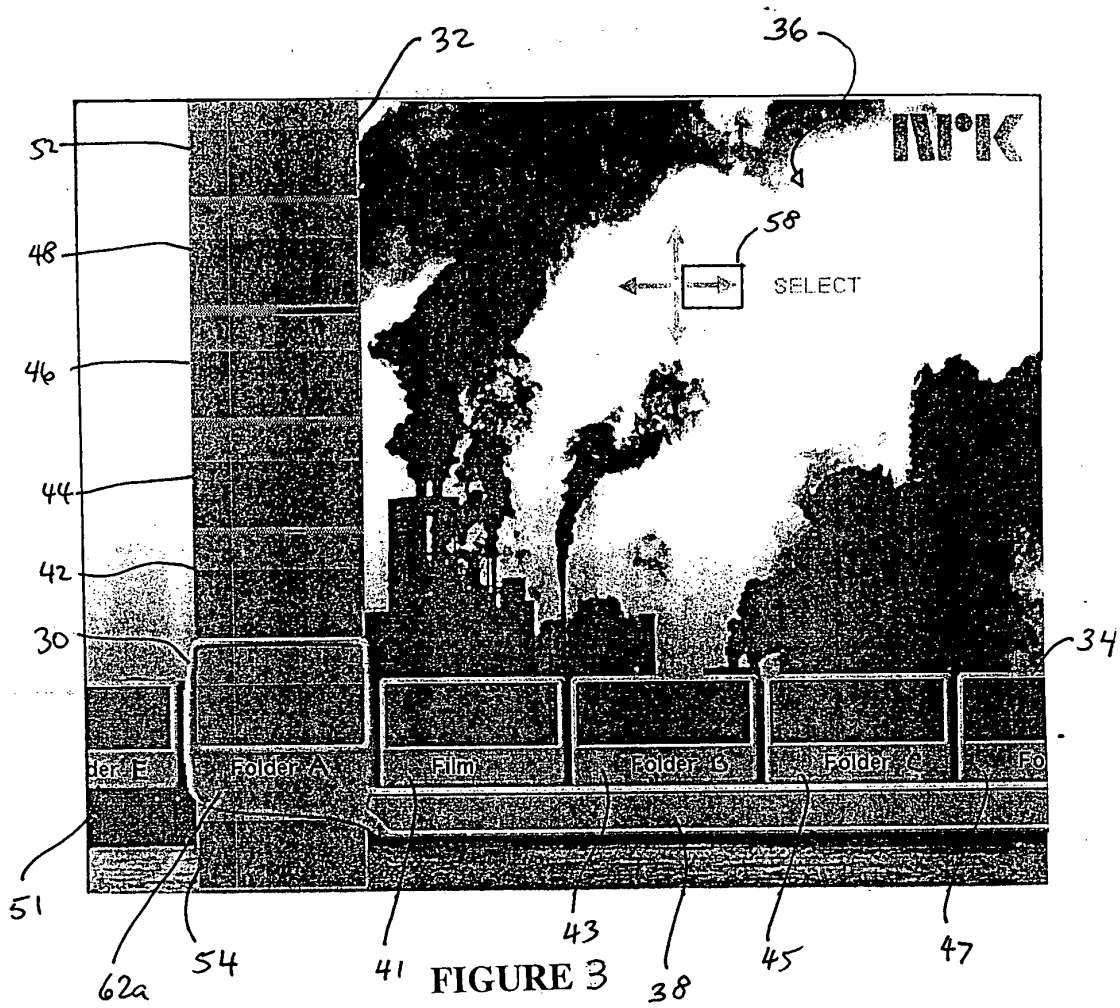


FIGURE 4

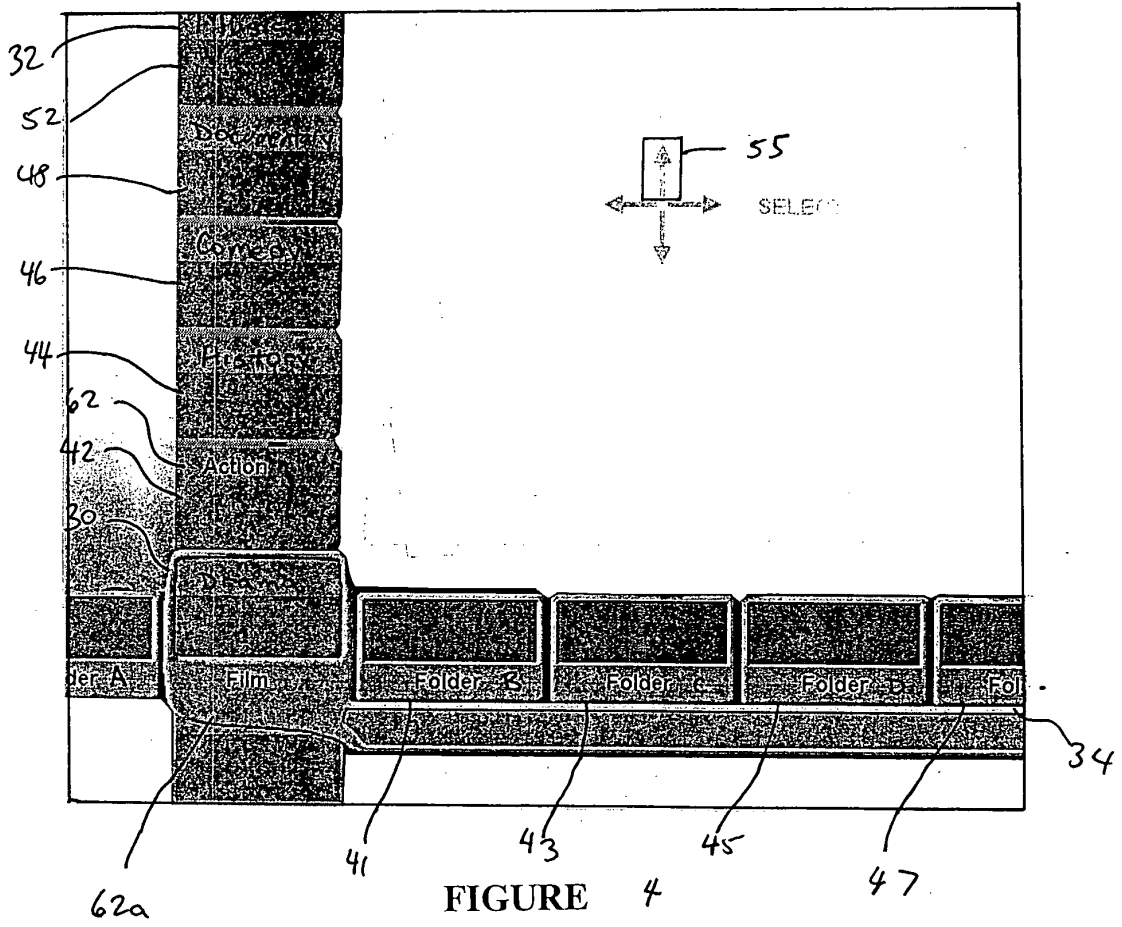


FIGURE 4

FIG. 5

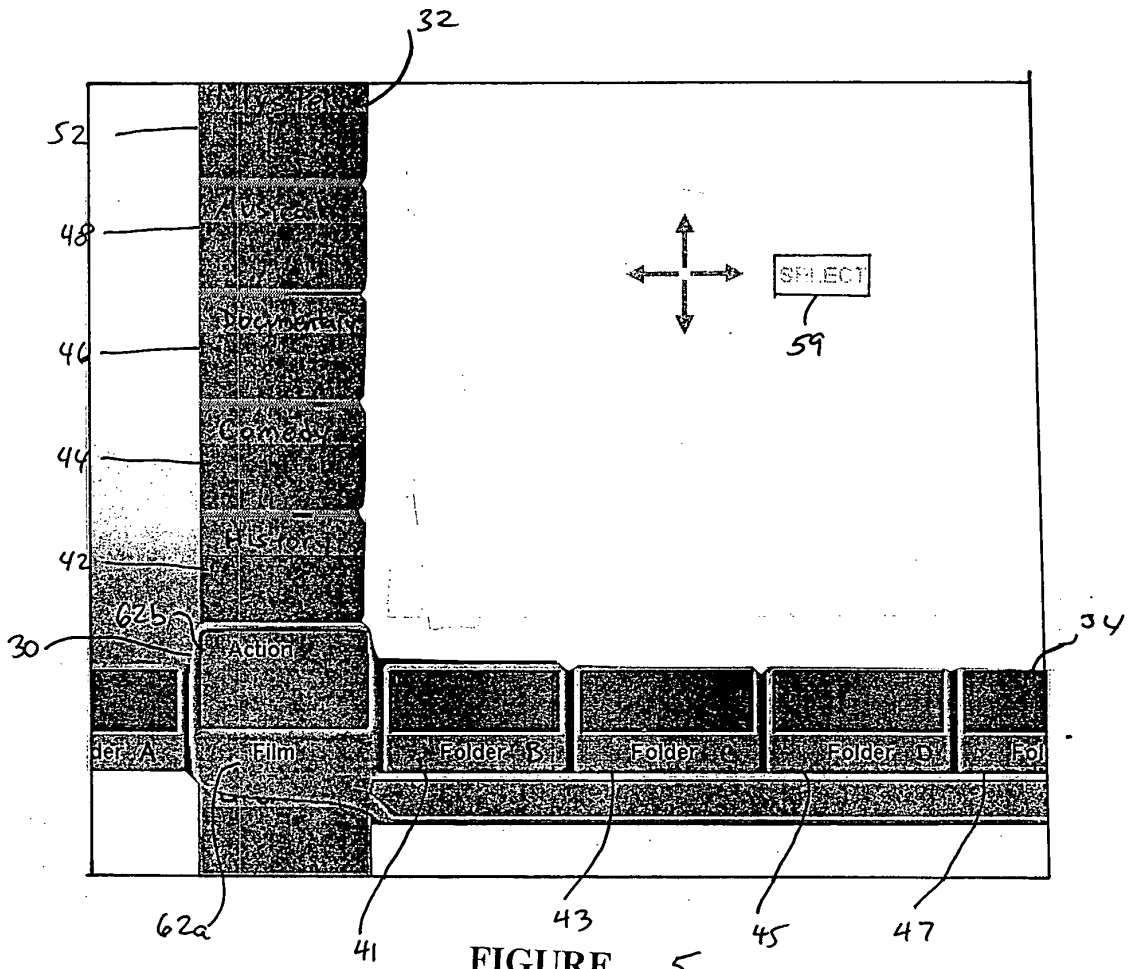


FIGURE 5

FIGURE 6

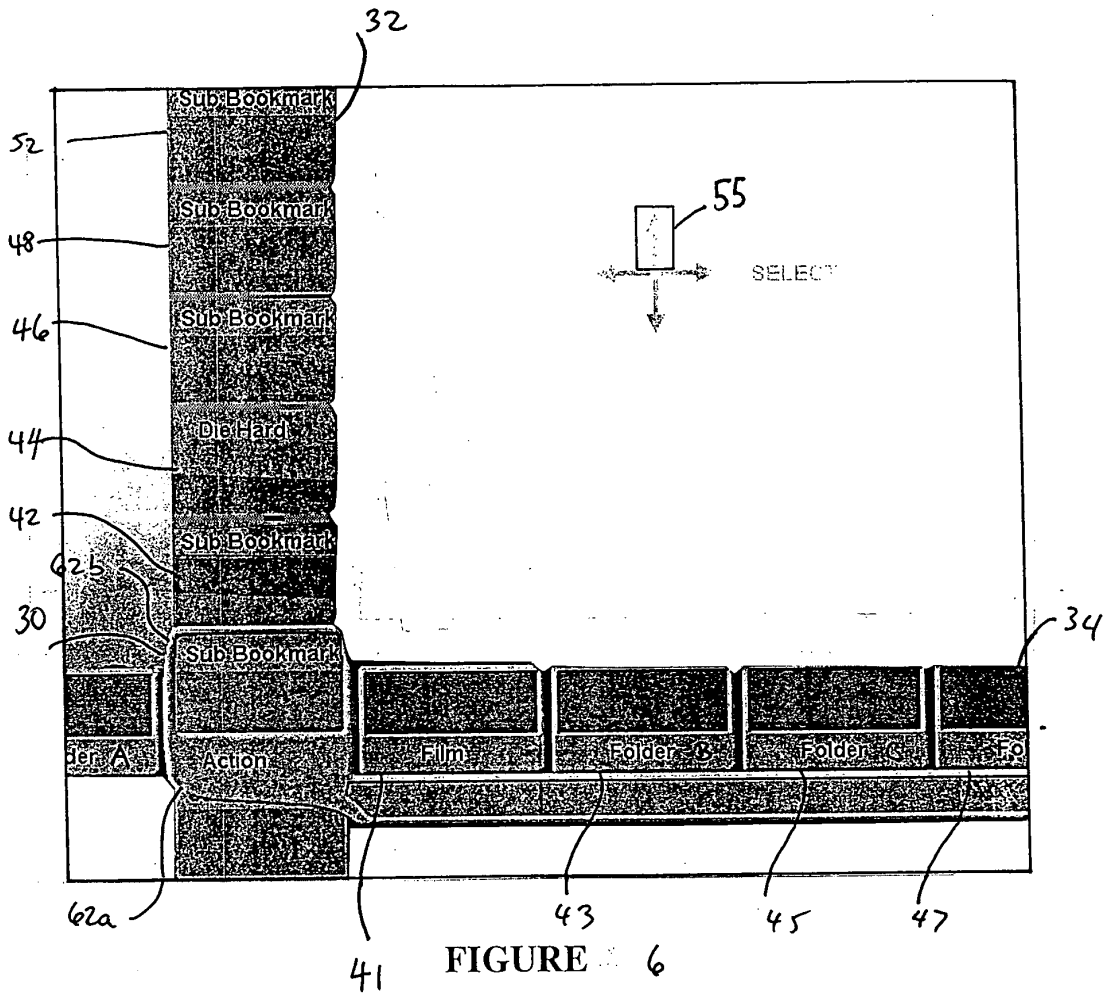


FIGURE 6

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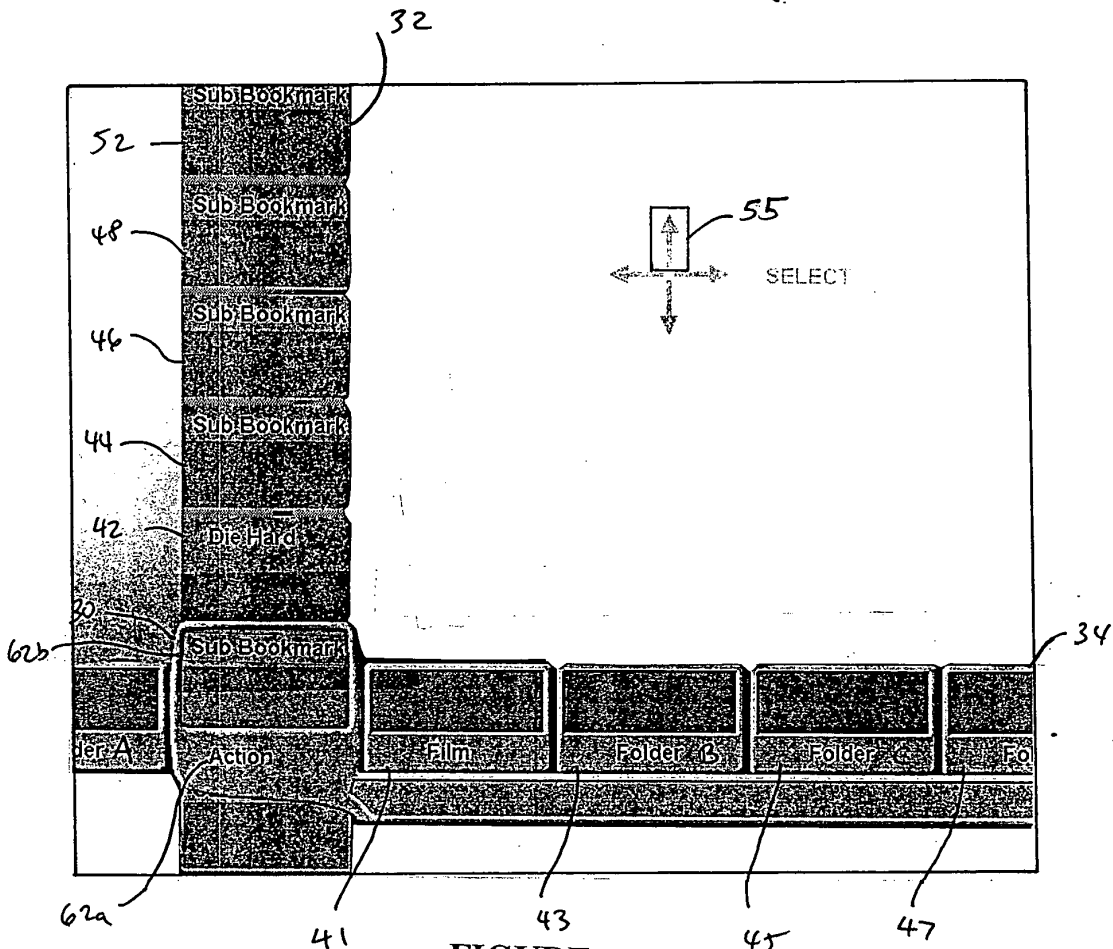


FIGURE 7

FIG. 8

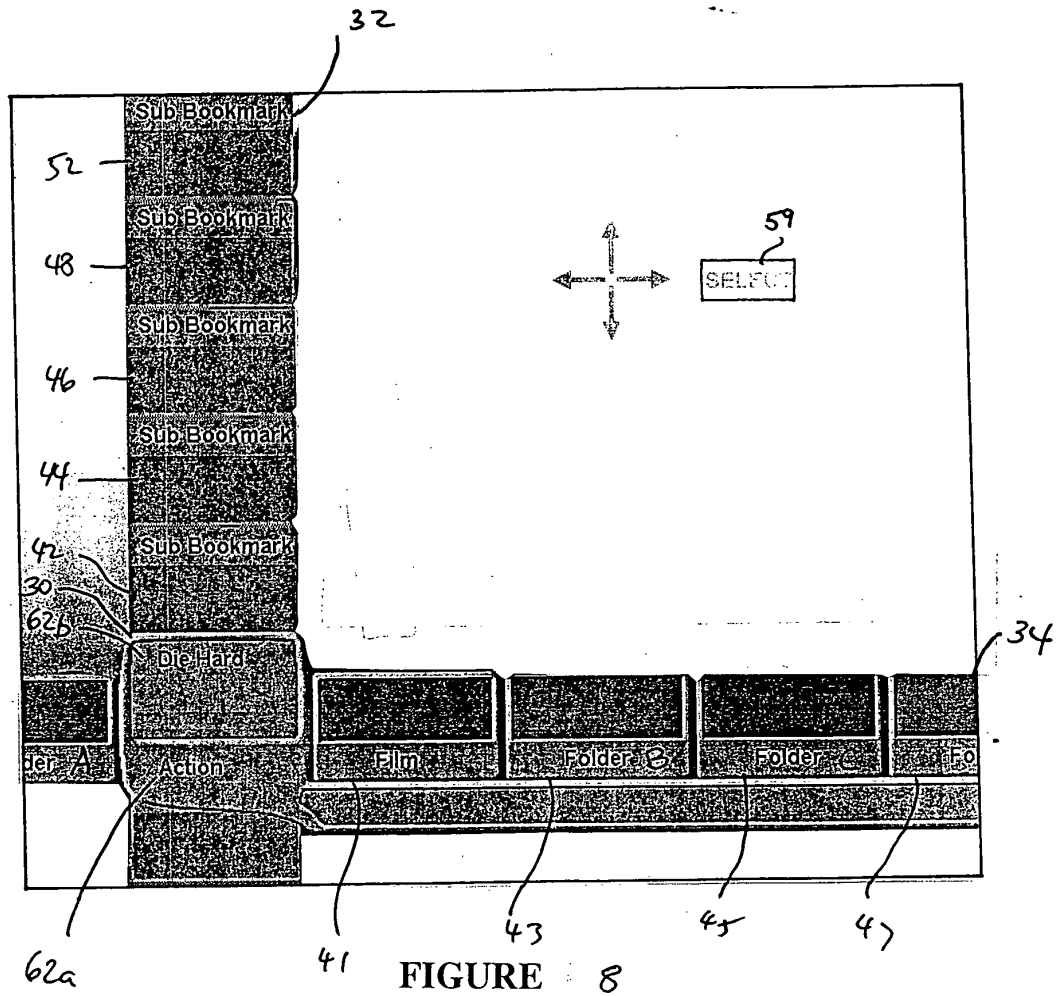


FIGURE 8

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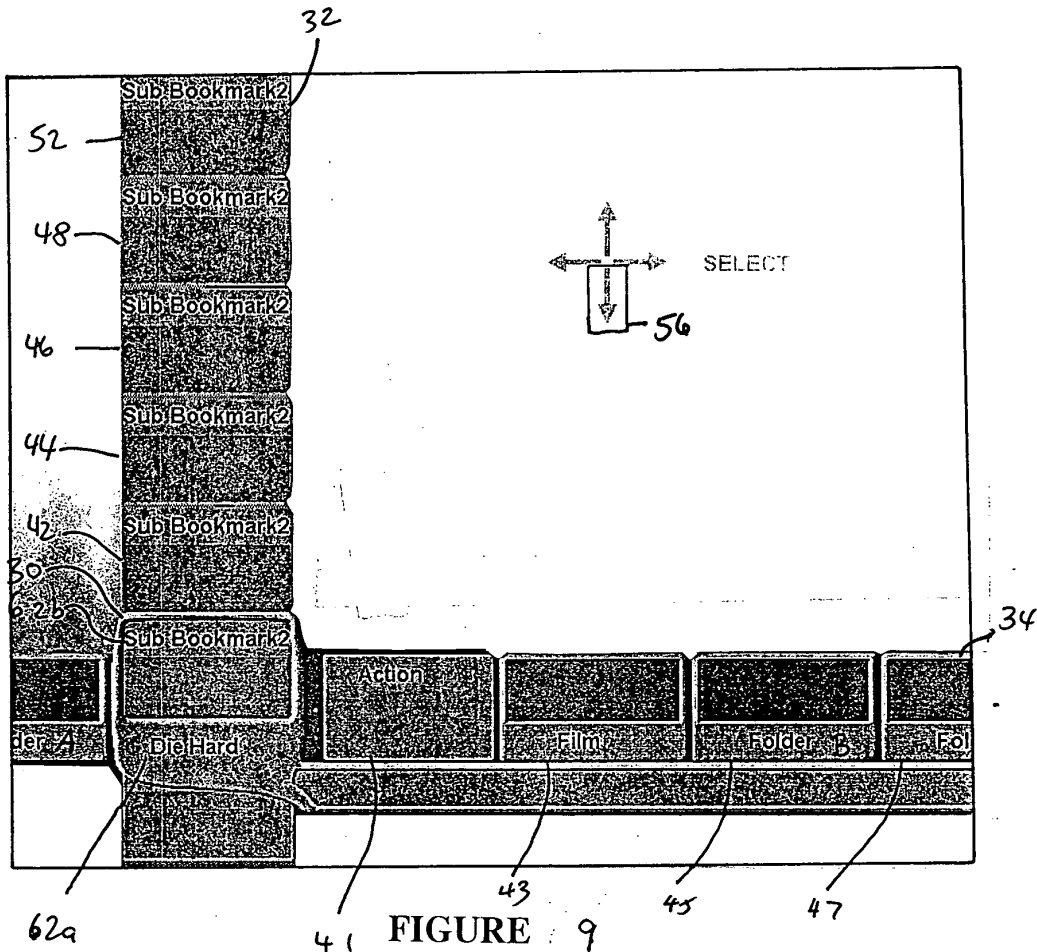


FIGURE 9

APPLICATION FOR

UNITED STATES LETTERS PATENT

**METHOD AND APPARATUS FOR
SCROLLABLE CROSS-POINT NAVIGATION
IN A USER INTERFACE**

Inventors:

BERGSTEN, Jonas
SÖKJER, Per

098290" 058E6B60

FIELD OF THE INVENTION

[0001] The present invention relates to a method and apparatus for selecting or adjusting services or settings of an electronic device on a display of the electronic device.

BACKGROUND OF THE INVENTION

5 [0002] The conventional means of selection of services on or adjustment of settings of electronic devices, including, for example, a TV, set-top box, DVD player, VCR, domestic appliance, and other similar devices, typically has the disadvantage of covering the entire area of the device's display and also typically requires a significant number of key depressions until the desired selection is shown and is selected. This selection process is a significant problem for
10 many users of such electronic devices, including disabled persons and those who are unfamiliar with setting electronic devices, are fearful of adjusting such devices, have no patience to deal with the user interface which is often complex, or who do not want to spend the time and effort reading the device's operational manual. Such device operational manuals, if actually supplied with the device (which is not always the case), are typically somewhat incomprehensible due
15 either to their technical complexity, the complexity of the technical language used, their oversimplicity, their bad writing style, or their unavailability in the user's native language.

[0003] Additionally, remote control devices, such as those used with televisions, DVD players, VCRs, etc., have a large number of keys, and the design of the key pads for each device is typically different for different manufacturers of like devices and even different for different
20 devices of like manufacturers.

[0004] There is thus a need for an electronic device user interface that is simple for a user to operate without the need to study an incomprehensible written user's manual.

FOB290 0582665

[0005] One such user interface that solves the aforementioned problems is disclosed in PCT Patent Publication No. WO 00/65429. In accordance with that user interface, a display on or associated with the electronic device presents to the user a pair of intersecting cross-point navigation bars. At least one of these bars is scrollable, and each bar displays one or more object fields. By selectively scrolling one or both of the bars, one at a time, by pressing appropriate buttons on the electronic device or its remote controller, the user positions a particular object field, or selection, at the point where the two bars intersect. When the user depresses a "select" button, the displayed object field is selected, and either a bar of the display transforms to the selected sub-field, or the electronic device performs the action corresponding to the displayed object field selected, thereby adjusting or setting the electronic device in the desired manner. By pressing another button when a particular object field is at the intersection of the two bars, the level of the object field displayed in the entire corresponding bar is changed so that the user is given a group of choices that fall under the selected object field category. Thus, for example, if the vertical bar has six object fields (A, B, C, D, E, and F), the horizontal bar will show sub-fields corresponding to the object field positioned at the intersection of the two bars (F-1, F0, F1, F2, F3, etc.), as shown in Fig. 2a of the patent publication. If the user depresses a predefined navigation key, sub-sub-fields (F2:-1, F2:0, F2:1, F2:2, F2:3, etc.) corresponding to the sub-field (F2) positioned at the intersection of the two bars are then displayed on the vertical bar, as shown in Fig. 2b of the patent publication. In actual use, words descriptive of, for example, instruction categories or actual instructions to be transmitted to the electronic device are displayed to the user, not merely letters and numbers. Such listing and selection of sub- and sub-sub-fields can go down to as many levels as is necessary to provide the user with a desired

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selection of options. To navigate upward through the levels, a second predefined navigation key is depressed by the user, and, as a result, the visual content of the appropriate bar is changed to reflect a change in field level.

[0006] Although the user interface disclosed in PCT Patent Publication No. WO 00/65429 is fully able to permit a user to satisfactorily navigate among a plurality of possible instructions or device settings arranged in a plurality of groups, sub-groups, sub-sub-groups, etc., it may be somewhat difficult for a user to determine where in the menu hierarchy of possible instructions and groups of instructions he currently is so that he can easily navigate to another desired available electronic device instruction or setting, or group of such instructions or settings. This difficulty arises because only two levels of groups (or fields) are simultaneously displayed to the user. Whenever a group, sub-group, etc. is selected, the appropriate bar is overwritten by the sub-entries in the selected group or sub-group. Thus, no map is displayed showing generally where in the hierarchy of groups, sub-groups, etc. the user currently is located. As a result, a user unfamiliar with the hierarchy of the groups may be forced to randomly press the navigation buttons repeatedly, thereby navigating up, down and/or through the levels, until he has found the desired instruction or group of instructions, or a group of instructions or an instruction that is familiar to the user to enable him to navigate to the instruction or group of instructions actually desired.

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SUMMARY OF THE INVENTION

[0007] The present invention provides a method and apparatus for controlling, adjusting and/or setting of electronic devices and appliances controlled by remote control devices, such as wireless and pointing devices, or also voice-controlled devices. The invention allows the user to navigate through a hierarchy of groups of commands or selections while continuously providing the user with information as to where the user is currently located in the hierarchical structure of groups so that navigation through the groups and individual selections is simplified.

[0008] Suitable electronic devices and appliances to be controlled include, for example, television sets, satellite receivers, set-top boxes, cable television controllers, computers, household equipment, telephones, mobile phones, personal digital assistants, DVD players, CD players, VCRs, stereo equipment, etc., especially appliances provided with user interfaces such as display screens for interaction with remote control and other key pad devices.

[0009] In accordance with the present invention, a scrollable cross-point navigation image is displayed on a user interface display to select a feature by combining two object fields. Two bars are displayed, each bar containing a plurality of panels, with each panel displaying a separate folder or particular setting. The two bars are positioned so that the bars overlap in a single focus panel. Preferably, the two bars are sized, shaped and positioned so as not to completely obscure the entirety of the display. As a result, a user can view the two bars, and can also view any programming or other information that is also being presented on the display.

[0010] The instructions, settings and/or selections that are available for selection by the user to adjust or set the electronic device are arranged in an associated database in one or more levels of groups (sub-groups, sub-sub-groups, etc.) so that settings, etc. of a similar nature are in

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positioned at a desired folder, the user selects it with the input device. If a particular ultimate setting or instruction within a folder, sub-folder, etc., is selected by the user, the electronic device is instructed to perform the function of that setting or instruction. To move upward in the hierarchy to one of the folders shown in the horizontal bar to the right of the focus panel, the user
5 simply uses the input device to scroll the horizontal bar as desired.

[0012] The user interface, thus, always displays the user's current location in the hierarchical structure and the path of the folder, sub-folder, and sub-sub-folder, etc., that the user descended through to get to the current location. Because this folder path information is continuously displayed to the user, navigation through the folder structure and the instructions or
10 settings within that structure is immediately apparent and simple without the need for a user's manual explaining the structure of the folder structure.

[0013] Other objects and features of the present invention will become apparent from the following detailed description considered in conjunction with the accompanying drawings. It is to be understood, however, that the drawings are intended solely for purposes of illustration and
15 not as a definition of the limits of the invention, for which reference should be made to the appended claims.

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BRIEF DESCRIPTION OF THE DRAWINGS

[0014] In the drawings, wherein like reference numerals delineate similar elements throughout the several views:

FIG. 1 is a schematic block diagram illustrating one embodiment of means used
5 to accomplish a apparatus in accordance with the present invention;

FIG. 2 is a schematically diagram of a preferred embodiment of a user interface in accordance with the present invention; and

FIGS. 3, 4, 5, 6, 7, 8, and 9 show one embodiment of the present invention at various different stages of operation.

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DETAILED DESCRIPTION OF THE PRESENTLY PREFERRED EMBODIMENTS

[0015] Figure 1 is a schematic block diagram of one embodiment of an apparatus 10 in accordance with the present invention, comprising a UI objects database 12, a graphics library 14, a graphics generator 16, an externally supplied data means 18, a content database 20, an interaction interpreter 22, an input device 24, and a user interface 26.

[0016] The input device 24 is any means that can be employed by a user to enter commands to control the user interface 26 and can be any of a number of manual controllers, such as, for example, a hand-held remote control with a keypad for a television set-top box, a keyboard for a PC, a remote controlled computer mouse, or a control panel with a keypad for a microwave oven. When a user wants to change a setting of the interface 26, the input device 24 is manipulated, such as by the depressing of keypad buttons, to transmit a signal to the interaction interpreter 22. Preferably, as will become more apparent from the discussion below, the input device has directional keys (up, down, right, and left) and a “select” key which a user can depress to provide a selection command. The input device 24 may instead and/or also comprise means for detecting and interpreting spoken commands of the user. A spoken command device would for example, include a microphone, a data processor, a database containing vocabulary data, and speech recognition software to recognize voice commands of a user to the electronic device

[0017] An interaction interpreter 22 interprets signals received from the input device 24 and sends the corresponding instruction to a graphics generator 16. The interaction interpreter 22 transforms commands from the input device 24 to actions provided by the graphics generator 16.

[0018] The content database 20 contains information, and groups or folders of

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information which can be presented on the user interface 26, which is preferably a screen, such as a television screen, monitor or flat panel display, such as liquid crystal or a plasma display.

Samples of such information could be, for example, names of object fields containing sub-object fields or finite objects and help-texts that are presented to a user upon entry by the use of the

5 appropriate commands. An object field is the name of a class or group of settings, sub-fields of settings, or sub-sub-fields of settings, etc. An example of an object field is the category or group, "Films".

A finite object is a direct setting of a feature for the electronic device. An example of a finite object is the particular film, "Die Hard". All material in the content database

20 can be altered and/or edited by a content provider, such as the original equipment manufacturer of the electronic device, or the service provider of material presented to the user and controlled through the user interface 26.

Such a service provider would include a cable television company that transmits television programming, movies and other entertainment to a user. In addition, if desired, some or all of the material in the content database may be altered

and/or edited by the user. For example, a user may want to delete certain television stations that are not of interest, the user may want to rename folders, or the user may want to add additional

15 objects, folders, subfolders, etc. Such added material might include bookmarks or shortcuts to web pages or locally stored content (such as folders, documents, video files, music files, etc. on a memory hard drive), control settings to a connected device at the user's location (such as a CD, DVD or video tape player/recorder), etc.

[0019] Externally supplied data 18 represents any content that is in the content database

20 from any source.

[0020] The UI objects database 12 contains types of graphical objects that can be

presented on the user interface 26. The UI objects database 12 supplies a graphics library 14 with generic representations of the types of graphical objects. The graphics library 14 contains functions to manipulate the UI objects in the interface 26. The graphics library 14 supplies the graphics generator 16 with specific instances from the UI objects database 12.

5 [0021] The graphic generator 16 controls the graphical presentation of the user interface 26 as well as manipulation accomplished by a user. The graphics generator 16 performs actions signaled by the interaction interpreter 22 through collecting content from the content database 20 and by merging the content with the graphics library 14 and delivering presentation of a desired action to the user interface 26. The user interface 26 presents feedback of any action performed
10 by a user of the interface 26.

[0022] Figure 2 schematically illustrates a user interface 26 in accordance with one embodiment of the present invention. The user interface 26 has two intersecting bars, preferably, a vertical bar 32 and a horizontal bar 34. The bars 32, 34 are preferably perpendicular to one another and are positioned proximate edges of the display area of the user interface 26 so that
15 obstruction by the bars is minimized of any background picture 36, such as a television program, graphics, etc. Although the bars 32, 34 are shown as being positioned proximate the left and bottom edges of the user interface, alternatively, they may be at any other location, such as free floating at any location in the background picture 36, or may be positioned along adjacent edges of the user interface. In addition, although bars 32, 34 are shown as being linear in shape, they
20 may assume any shape, such as, for example, curved into two circular or oval lines. Each of the bars 32, 34 is comprised of a plurality of panels, with vertical bar comprising panels 54, 30, 42, 44, 46, 48 and 52, and with horizontal bar comprising panels 51, 30, 41, 43, 45, 47 and 49. Each

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bar 32, 34 may comprise more or fewer panels, as desired. The two bars, 32, 34 intersect with a common panel, focus panel 30. Although the panels are show as being substantially rectangular in shape, they may assume any shape, such as square, oval, round, hexagonal, etc. Each of the panels preferably has one or more areas on which appears textual information and/or graphics.

5 For example, each panel of the vertical bar 32 has a smaller upper area 62 and a larger central area 60. Similarly, each panel of the horizontal bar 34 has a smaller lower area 62 and a larger central area 60. The focus panel 30, which is the panel where the vertical bar 32 and the horizontal bar 34 intersect, preferably has a larger central area 60a, a smaller lower area 62a, and a smaller upper area 62b. The areas 60, 60a, 62, 62a, and 62b of the panels are used to display
10 the textual information and/or graphics, as discussed below. The user interface 26 preferably also has an information field 38 positioned below the horizontal bar 34 where additional information can optionally be displayed. Finally, the user interface 26 preferably displays a plurality of possible navigation commands, shown as up, down, left and right arrows 55, 56, 57, 58 and a "Select" command 59. Although the navigation commands are shown as directed
15 arrows 55, 56, 57, 58, they may also be depicted as words or other pictures, such as pointing fists. The navigation and "Select" commands may be continuously displayed and highlighted when the user selects a particular command with the input device 24, or, alternatively, only displayed when a user actually selects that command. Although the command graphics 55, 56, 57, 58, 59 are show in the upper right of the user interface 26, they may be in any position.
20 Preferably, the command graphics 55, 56, 57, 58, 59 are omitted entirely from the display at all times. However, if the user interface is a mouse, the display command graphics, such as those shown, enable selection by the user of a command by clicking with the mouse's pointer on the

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appropriate command graphic 55, 56, 57, 58, 59. Additional, if the display is a touch screen, command graphics may be displayed so that touching by the user of the appropriate graphic selects that command for execution.

[0023] The various portions of the bars 32, 34, any text or graphics on the bars 32, 34, and the commands 55, 56, 57, 58, 59, and are preferably suitably colored or shaded to contrast appropriately against the background picture 36 and other elements of the displayed information on the user interface 26 so that the user can easily discern all of the displayed information.

[0024] In operation, a user initially activates the user interface feature of the electronic device by entering the appropriate command on the input device 24. Thereupon, the user interface 26 appears on the appropriate display on or associated with the electronic device. For certain electronic devices where information of interest is continuously shown, such as entertainment programming on a television monitor, for example, it is desirable that the user interface 26 only appear when the user wants to change a setting of the television. For other electronic devices where the associated display does not provide any other information, such as, for example, a microwave oven, the user interface 26 might be continuously displayed.

[0025] All possible instructions, settings and/or selections available to the user to adjust or set the electronic device are arranged in the content database 20 in one or more levels of groups (sub-groups, sub-sub-groups, etc.) so that settings, etc. of a similar nature are in the same group. The items of a first level are very general. In a second level, the items are more detailed than in the first level, but are still somewhat general. In a third level, the items are even more detailed than in the second level. And so on. The items are linked according to their contents. This means that an item of the first level is linked to one or more items of the second level.

Additionally, an item of the second level is linked to one or more items of the third level. And so on. Thus, with this linking structure, the items are arranged in a tree-like manner or hierarchical structure with any branch of the tree constituting a further level. Since, as discussed above, the user and/or the service provider may alter and/or edit the groups show at the various levels, a folder in one particular level, for example, may have more or fewer sub-groups, sub-sub-groups, etc. than other folders in that same level. Additionally, it is also possible that the user and/or service provider may want a particular ultimate selection or device command that is frequently used (and which one might expect to be relegated only to a sub-sub-group) to be positioned with folders at the highest level, for example.

10 [0026] As discussed in detail below with reference to Figures 3 to 9 in which a particular embodiment is shown, the user's current location within the folder hierarchy is continuously displayed to the user in the horizontal bar 34. The focus panel 30 displays (1) the user's currently selected lowest level in the hierarchy in area 62a and (2) the next higher level, if any, in the area 62b. As the user descends into the folder hierarchy, the next higher level, if any, is shown in panel 41, the level above the level shown in panel 41 is shown in panel 43, and so on to the right across horizontal bar 34 until there are no further higher levels to display, at which point the remaining upper-most level folders are displayed in the panels on the horizontal bar 34. As the user descends down the folder hierarchy, the panels in the horizontal bar 34 shift to the right and panels identifying levels between the current level and the top most level are displayed. As 15 the user ascends through the folder hierarchy, the panels in the horizontal bar 34 shift to the left. To navigate up or down folder levels and to select a particular folder at any level, the user employs the input device 24 to activate "up", "down", "left", "right" and "SELECT" commands 20

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which cause the bars 32, 34 to scroll in the selected direction, as indicated in Figure 2) to cause a particular panel to be shifted into the focus panel 30. In the panels of the vertical bar 32 are sub-folders, if any, or individual settings, if any, that are within the folder appearing in area 62a of focus panel 30, that is, such sub-folders or settings that are of the same level as the user's current lowest level in the hierarchical structure appearing in area 62b of the focus panel 30.

[0027] To more fully understand the present invention, one embodiment of the present invention is shown in operation in Figures 3 to 9, in which the numbering of the various elements has been simplified relative to Figure 2. In this particular embodiment, the electronic device is a television with a cable television set-top box and the user interface is used to select a particular entertainment program from among a plurality of possible entertainment programs. The present invention is not restricted to such an electronic device, and, as stated above can be used in conjunction with many other types of electronic devices.

[0028] Referring initially to Figure 3, horizontal bar 34 is comprised of six panels 51, 30, 41, 43, 45 and 47. In the lower areas 62 of the panels is text describing the name of the folder, group or field represented by the respective panels. The horizontal panels depict folders of categories of possible entertainment programming available to the user. Although all of the panels show the generic titles, "Folder A", "Folder", etc., except panel 41 which reads "Film", in actual operation the other panels would depict titles of other entertainment programming categories, such as, for example, "network television programming", "music video", "channel programming guide", "internet", etc. Rather than or in addition to text, graphics may be depicted on the panels, such as, for example, a movie projector for "Film", a television set for "network television programming", etc. The vertical bar 32 is comprised of seven panels 54, 30, 42, 44,

46, 48 and 52. These vertical panels depict sub-groups, bookmarks or selections, if any, collected in the folder identified in area 62a of focus panel 30. Although all of these panels except panel 30 are blank in Figure 3, in actual operation, each panel would display a title or graphic representative of its contents. The bars 32, 34 are positioned proximate edges of the display so that a great proportion of the current programming 36 is visible. Information field 38 is blank in Figure 3, but in practice would display relevant information, such as the date and time, the status of the electrical device, error messages, a short help message, etc. which are associated with the folder or bookmark identified in area 62b of focus panel 30.

[0029] As shown in Figure 3, the positioning of the bars 32, 34 is preferably selected so as to minimize obstruction of a background picture 36 that is being shown on the display. In Figures 4 to 9 the background picture 36 is omitted merely to simplify the Figures, although in practice the background picture, if any, would be displayed.

[0030] In this example, the user wants to view a "Film", the panel for which is to the right of focus panel 30. Consequently, the user uses the input device 24 to enter the "right" command once, as shown by the highlighted right arrow 58. The horizontal bar 34 shifts one position so that the focus panel 30 now shows "Film" in area 62a, as shown in Figure 4. The vertical bar now shows in its panels the sub-groups, bookmarks or selections collected in the folder entitled "Film". One of panel 42 shows the category "Action" in its area 62, referring to action films. Other panels in vertical bar 32 display other exemplary categories of "Films", "Drama" (panel 30), "History" (panel 44), "Comedy" (panel 46), "Documentary" (panel 48), and "Musical" (panel 52).

[0031] The user wants to view an Action film, the panel for which is up from the focus

panel 30. Consequently, the user employs the input device 24 to enter the “up” command once, as shown by the highlighted up arrow 55. The vertical bar shifts one position so that the focus panel 30 now shows the sub-group “Action” in area 62b and the name for the group “Film” in area 62a, as shown in Figure 5. To display the action films available, the user enters the “Select” command on the input device 24, as shown by the highlighted “SELECT” command 59. Upon selection, as shown in Figure 6, the name for the group selected, “Film”, is then shifted to the right to panel 41, the name for the selected sub-group or bookmark, in this case “Action”, is substituted into area 62a of focus panel 30, and all of the available action films are shown on the panels of vertical bar 32. Vertical bar 32 now shows all sub-bookmarks categorized under the bookmark “Action” and the folder “Film”.

[0032] One of the available action films is “Die Hard”, the title of which appears in panel 44 that is two panels up from focus panel 30. Although “Sub Bookmark” is shown for the other panels of the vertical bar, in practice the title of other available action films would be displayed in the panels. In a first step to select the film “Die Hard”, the user enters the “up” command a first time, as shown by the highlighted up arrow 55. The vertical bar shifts one position so that the “Die Hard” panel shifts from panel 44 to panel 42, as shown in Figure 7. In a second step to select the film “Die Hard”, the user enters the “up” command a second time, as shown by the highlighted up arrow 55. The vertical bar shifts one position so that the “Die Hard” panel shifts from panel 42 to focus panel 30, as shown in Figure 8, with “Die Hard” appearing in area 62b. Thus, in areas 62b of panels 42, 44, 48 and 52 appear sub-bookmarks (or selections) that are of the same level as the sub-bookmark “Die Hard” appearing in area 62b of focus panel 30.

[0033] To see what options are available for the sub-bookmark “Die Hard”, under the

bookmark "Action" in the folder "Film", the user activates the select command, as shown by the highlighted "SELECT" command 59. Upon selection of the sub-bookmark "Die Hard", as shown in Figure 9, the name for the group selected, "Film", is then shifted to the right to panel 43, the name for the selected sub-group or bookmark "Action" is shifted to the right to panel 41, the name for the selected sub-bookmark "Die Hard" is placed into area 62a of focus panel 30, and the available sub-sub-bookmarks (each labeled as "Sub Bookmark2") for "Die Hard" are displayed in the vertical bar 32. Although in Figure 9 panels 42, 44, 46, 48 and 52 all merely show the title "Sub Bookmark2", in practice various selections would be shown such as, for example, "Movie", "Movie Trailer #1", "Movie Trailer #2", "Director's Commentary", "Filming Special Effects", or "Scene Selection" which, if selected, would list as sub-sub-sub bookmarks, various scenes in the film "Die Hard" that can be viewed. The user can then select the "Sub Bookmark2" of interest for viewing. If the sub-sub-bookmark "Sub Bookmark2" selected is itself a folder containing additional sub-sub-sub-bookmarks, the panels of horizontal bar 34 are shifted to the right by one position and the areas 62a and 62b of focus panel 30 are appropriately modified.

[0034] As shown in Figure 9, even though the user has descended down a number of levels in the folder hierarchy, the current location is immediately apparent: panel 43 shows folder "Film", panel 41 shows bookmark "Action", area 62a of focus panel 30 shows sub-bookmark "Die Hard", and area 62b of focus panel 30 shows sub-sub-bookmark "Sub-Bookmark2".

[0035] If the user wanted to move upward in the folder hierarchy, the appropriate commands (up, down, left, right, and select) are entered and the horizontal and vertical bars 32, 34 are then appropriately modified. Thus, if the user wanted to ascend to the level, shown in

Figure 3, from the point shown in Figure 9, the user would merely enter the “left” command one time, as is evident from the fact that in Figure 9 the panel “Film” is shown as being two positions away from the focus panel 30.

[0036] Because the user’s current location is always apparent by a display of the folder path on the horizontal bar 34 irrespective of where in the folder hierarchy the user is currently located, navigation by the user up and down and across the folder hierarchy is apparent and simple to accomplish without requiring the user to study a lengthy detailed written user’s manual.

[0037] To further ease understanding of the hierarchical structure of the folders and sub-folders, etc., shown on the bars 32, 34, each level of folders preferably have a different color or coloring scheme. For example, the top level folders are green with black type, while at the next level down the bookmarks are blue with black type, and at the next level down the sub-bookmarks are red with white type, etc.

[0038] Although in the above-described embodiment the hierarchical structure of the user’s current location is displayed in the panels on horizontal bar 34, alternatively this information may be displayed in the vertical bar 32 so that the information displayed in the bars 32, 34 are switched completely. Additionally, the names of the folders, bookmarks, etc. may be presented at any position on the panels, and instead of text, may be in graphical form and/or may also include graphics, as appropriate or desired.

[0039] Although the bars 32, 34 are shown as linear, they may be virtual loops so that when the user scrolls through the bar to one end, the next panel that is presented is the panel at the other end. Thus, if the loop comprises only the folders shown, after scrolling the horizontal

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bar 34 so that folders pass through the focus panel 30 one after the other until the folder originally in panel 49 moves to focus panel 30, the folder in panel 41 will become the folder that was originally in panel 51. A virtual loop may also have more entries than are displayed at once.

Thus, for example, although only six folders are displayed, the virtual loop may actually contain many more than six folders, with others of the remaining folders being displayed as the user scrolls along the bar, thereby causing some of the initial six folders to disappear.

[0040] Movement of the panels of the bars 32, 34 may be accomplished by entering other commands than those discussed above, such as, for example, with reference to the discussion above concerning Figures 3 to 9 substituting “left” for “right”, “up” for “down”, etc. Although it is preferred for the input device 24 to have four movement command keys so that all four possible movement commands can be easily entered, alternatively only two movement command buttons may be needed if the bars 32, 34 are virtual loops as discussed. Thus, by pressing a horizontal movement command button repeatedly, the appropriate panel will eventually scroll to the focus panel 30.

[0041] To allow more of the background picture to be displayed to the user, one or more of the panels in one or both of the bars 32, 34 distant from the focus panel 30 may be transparent or semi-transparent. In addition, the focus panel 30 itself may also be semi-transparent. Although the bars 32, 34 are shown in the figures as being adjacent the left and bottom edges of the user interface, they may be positioned adjacent other edges of the user interface.

[0042] The focus panel 30 may be displayed in a higher intensity, be shadowed and/or be larger than the other panels to enhance the viewability of the focus panel 30.

[0043] As is apparent, the folders and sub-folders, etc., displayed on the user interface 26

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are appropriate for the particular electronic device being controlled. For example, if the electronic device is a microwave oven, the folders at the top level might include categories of heatable food dishes, such as "main dishes", "snacks", "beverages", etc., and lower sub-levels for these folders might include other general categories such as "uncooked meal", "reheated meal", "frozen meal", with sub-sub-folders including particular meals such as "beef stew", "lasagna", "pizza", "fish", "French fries", "corn", etc.

[0044] Thus, while there have been shown and described and pointed out fundamental novel features of the present invention as applied to a preferred embodiment thereof, it will be understood that various omissions and substitutions and changes in the form and details of the devices illustrated, and in their operation, may be made by those skilled in the art without departing from the spirit of the present invention. For example, it is expressly intended that all combinations of those elements and/or method steps which perform substantially the same function in substantially the same way to achieve the same results are within the scope of the invention. Substitutions of elements from one described embodiment to another are also fully intended and contemplated. It is also to be understood that the drawings are not necessarily drawn to scale but that they are merely conceptual in nature. It is the intention, therefore, to be limited only as indicated by the scope of the claims appended hereto.

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What is claimed is:

1. A method for displaying information in a display associated with an electronic device, comprising:

organizing a plurality of information entries into a hierarchy comprising a plurality of groups, at least one of which groups having at least one sublevel of subgroups; and

displaying panels on a display associated with an electronic device, the panels being arranged into two bars of panels with a common focus panel, each of the panels being linked to and identifying one of (a) one of the plurality of information entries, (b) one of the groups, and (c) one of the subgroups,

wherein the focus panel identifies (a) a currently selectable lowest level in the hierarchy and (b) the next higher level, if any,

wherein levels, if any, in the hierarchy higher than that displayed in the focus panel are identified in succeeding adjoining panels of a first of the two bars, other panels of the first bar identifying highest level groups in the hierarchy, and

wherein panels of the second of the two bars each identify one of (a) information entries, if any, (b) groups, if any, and (c) subgroups, if any, of the same level in the hierarchy as the currently selectable lowest level in the hierarchy identified in the focus panel.

2. The method of claim 1, wherein the two bars are sized and positioned on the display so as to permit viewing of a substantial portion of a background image presented on the display.

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3. The method of claim 1, wherein the two bars are perpendicular to one another.
4. The method of claim 3, wherein each of the two bars are positioned on the display to be proximate an edge of the display.
5. The method of claim 3, wherein each of the two bars are positioned on the display to be parallel to an edge of the display.
6. The method of claim 1, wherein the two bars are displayed on the display only upon entry of a command by a user.
7. The method of claim 1, wherein upon entry by the user on an input device of a selecting command, the electronic device performs an action corresponding to an information entry identified in the focus panel.
8. The method of claim 1, wherein a currently selected lowest level in the hierarchy identified in the focus panel is changed upon the entry of a navigation command by the user on an input device.
9. The method of claim 1, wherein information entries, groups, or subgroups

linked to the panels are identified on the panels by at least one of text and graphics.

10. The method of claim 1, wherein at least one of the panels is one of semi-transparent and transparent.

11. An apparatus for displaying information in a display associated with an electronic device, comprising:

a database storing a plurality of information entries in a hierarchy comprising a plurality of groups, at least one of which groups having at least one sublevel of subgroups; and

a means for displaying panels on a display associated with an electronic device, the panels being arranged into two bars of panels with a common focus panel, each of the panels being linked to and identifying one of (a) one of the plurality of information entries, (b) one of the groups, and (c) one of the subgroups,

wherein the focus panel identifies (a) a currently selectable lowest level in the hierarchy and (b) the next higher level, if any,

wherein levels, if any, in the hierarchy higher than that displayed in the focus panel are identified in succeeding adjoining panels of a first of the two bars, other panels of the first bar identifying highest level groups in the hierarchy, and

wherein panels of the second of the two bars each identify one of (a) information entries, if any, (b) groups, if any, and (c) subgroups, if any, of the same level in the hierarchy as the currently selectable lowest level in the hierarchy identified in the focus panel.

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12. The apparatus of claim 11, wherein the two bars are sized and positioned on the display so as to permit viewing of a substantial portion of a background image presented on the display.

13. The apparatus of claim 11, wherein the two bars are perpendicular to one another.

14. The apparatus of claim 13, wherein each of the two bars are positioned on the display to be proximate an edge of the display.

15. The apparatus of claim 13, wherein each of the two bars are positioned on the display to be parallel to an edge of the display.

16. The apparatus of claim 11, wherein the two bars are displayed on the display only upon entry of a command by a user.

17. The apparatus of claim 11, wherein upon entry by the user on an input device of a selecting command, the electronic device performs an action corresponding to an information entry identified in the focus panel.

18. The apparatus of claim 11, wherein a currently selected lowest level in the hierarchy identified in the focus panel is changed upon the entry of a navigation command by the

user on an input device.

19. The apparatus of claim 11, wherein information entries, groups, or subgroups linked to the panels are identified on the panels by at least one of text and graphics.

20. The apparatus of claim 11, wherein at least one of the panels is one of semi-transparent and transparent.

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ABSTRACT

Method and apparatus for controlling an electronic device by navigating through a hierarchy of groups of commands while continuously providing the current location and path in the hierarchical structure. A displayed scrollable cross-point navigation image has two bars, each containing panels corresponding to a separate folder, etc. At the intersection of the bars is displayed the current lowest level and the next upper level, if any. The next higher level is shown in an adjoining panel on a first bar, the next higher level in a next adjoining panel on that bar, until there are no further higher levels to display, at which point the remaining upper-most level folders are displayed. The second bar displays sub-folders or settings within the folder in the focus panel. Moving in the folder hierarchy causes the panels in the first bar to shift to display all intervening levels through the top level.

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

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APPLICANTS Jonas Bergsten, Linkoping, SWEDEN; SN Per Sokjer, Linkoping, SWEDEN;					
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** FOREIGN APPLICATIONS ***** NA SN					
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Foreign Priority claimed <input type="checkbox"/> yes <input type="checkbox"/> no		STATE OR COUNTRY SWEDEN	SHEETS DRAWING 9	TOTAL CLAIMS 20	INDEPENDENT CLAIMS 2
35 USC 119 (a-d) conditions met <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> Met after Allowance					
Verified and Acknowledged <i>[Signature]</i> Examiner's Signature		Initials SN			
ADDRESS COHEN, PONTANI, LIEBERMAN & PAVANE 551 Fifth Avenue, Suite 1210 New York, NY 10176					
TITLE Method and apparatus for scrollable cross-point navigation in a user interface					
FILING FEE RECEIVED 840	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:		<input type="checkbox"/> All Fees <input type="checkbox"/> 1.16 Fees (Filing) <input type="checkbox"/> 1.17 Fees (Processing Ext. of time) <input type="checkbox"/> 1.18 Fees (Issue) <input type="checkbox"/> Other _____ <input type="checkbox"/> Credit		

PATENT APPLICATION SERIAL NO. _____

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE
FEE RECORD SHEET

07/05/2001 MGBREM1 00000005 09893850

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PTO-1556
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PATENT APPLICATION FEE DETERMINATION RECORD
Effective October 1, 2000

Application or Docket Number

2925-119

CLAIMS AS FILED - PART I

	(Column 1)	(Column 2)
TOTAL CLAIMS	20	
FOR	NUMBER FILED	NUMBER EXTRA
TOTAL CHARGEABLE CLAIMS	20 minus 20 =	* 0
INDEPENDENT CLAIMS	2 minus 3 =	* 0
MULTIPLE DEPENDENT CLAIM PRESENT <input type="checkbox"/>		

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

SMALL ENTITY TYPE OR

OTHER THAN SMALL ENTITY

RATE	FEE		RATE	FEE
BASIC FEE	355.00	OR	BASIC FEE	710.00
X\$ 9=		OR	X\$18=	
X40=		OR	X80=	
+135=		OR	+270=	
TOTAL		OR	TOTAL	110

CLAIMS AS AMENDED - PART II

	(Column 1)		(Column 2)		(Column 3)
AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR		PRESENT EXTRA
	Total	*	Minus	**	=
	Independent	*	Minus	***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <input type="checkbox"/>					

SMALL ENTITY OR

OTHER THAN SMALL ENTITY

RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
X\$ 9=		OR	X\$18=	
X40=		OR	X80=	
+135=		OR	+270=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

	(Column 1)		(Column 2)		(Column 3)
AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR		PRESENT EXTRA
	Total	*	Minus	**	=
	Independent	*	Minus	***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <input type="checkbox"/>					

RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
X\$ 9=		OR	X\$18=	
X40=		OR	X80=	
+135=		OR	+270=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

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AMENDMENT C	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR		PRESENT EXTRA
	Total	*	Minus	**	=
	Independent	*	Minus	***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <input type="checkbox"/>					

RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
X\$ 9=		OR	X\$18=	
X40=		OR	X80=	
+135=		OR	+270=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20."

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3."

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

CLAIMS ONLY

SERIAL NO. 09845850 FILING DATE 07-05-01
 APPLICANT(S) _____

CLAIMS

	AS FILED		AFTER 1st AMENDMENT		AFTER 2nd AMENDMENT		*		*		*	
	IND.	DEP.	IND.	DEP.	IND.	DEP.	IND.	DEP.	IND.	DEP.	IND.	DEP.
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TOTAL CLAIMS												

* MAY BE USED FOR ADDITIONAL CLAIMS OR ADMENDMENTS

Attorney Docket # 4925-119

Express Mail #EL489597203US

Patent

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of
Jonas BERGSTEN et al.
Serial No.: n/a
Filed: concurrently
For: Method and Apparatus for Scrollable
Cross-Point Navigation in a User Interface

JC971 U.S. PTO
09/093850
06/28/01

INFORMATION DISCLOSURE STATEMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

S I R:

In compliance with the duty of disclosure under 37 C.F.R. § 1.56 and in accordance with the practice under 37 C.F.R. §§ 1.97 and 1.98, the Examiner's attention is directed to the documents listed on the enclosed Form PTO 1449. Copies of the listed documents are also enclosed.

It is respectfully requested that the above information be considered by the Examiner and that the copy of the enclosed Form PTO-1449 be returned indicating that such information has been considered.

Respectfully submitted,
COHEN, PONTANI, LIEBERMAN & PAVANE

By Michael C. Stuart

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Dated: June 28, 2001

U. S. DEPARTMENT OF COMMERCE
Sheet 1 of 1

PATENT AND TRADEMARK OFFICE

LIST OF REFERENCES CITED BY APPLICANT

Atty Docket No.: 4925-119 Filing Date: concurrently
 Serial No.: n/a Group Art:
 Applicant: Jonas BERGSTEN et al.

JC971 U.S. PTO
09/09/2000
06/28/01

U.S. PATENT DOCUMENTS

*Ex. Intls.		Document No.	Date	Name	Class	Subclass	Filing Date
	AA						
	AB						
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	AE						

FOREIGN PATENT DOCUMENTS

*Ex. Intls.		Document No.	Date	Country	Name	Class	Subclass	Translation Yes/No
	AF	WO 00/65429	11/02/2000	PCT	Törnqvist, et al.	G06F	3/033	Yes
	AG							
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OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

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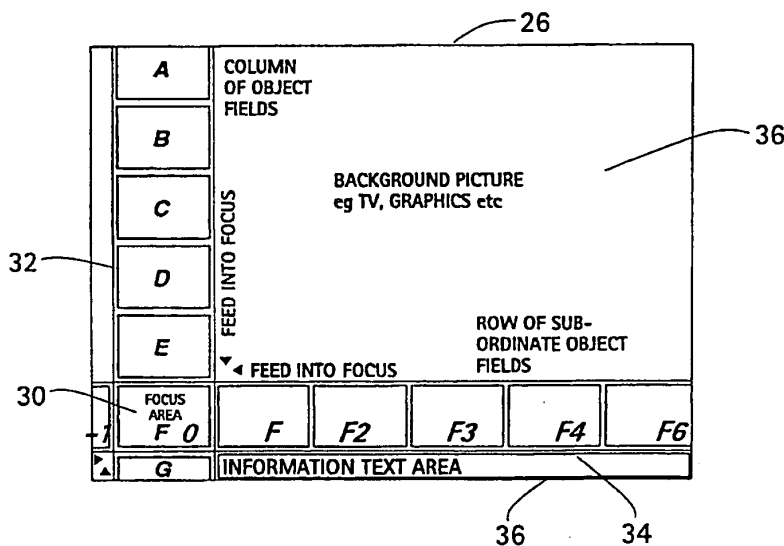
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INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification ⁷ : G06F 3/033</p>	<p>A1</p>	<p>(11) International Publication Number: WO 00/65429 (43) International Publication Date: 2 November 2000 (02.11.00)</p>
<p>(21) International Application Number: PCT/EP00/03637 (22) International Filing Date: 20 April 2000 (20.04.00) (30) Priority Data: 9901443-3 22 April 1999 (22.04.99) SE (71) Applicant (for all designated States except US): NOKIA MULTIMEDIA TERMINALS OY [FI/FI]; Keilalahdentie 4, FIN-02150 Espoo (FI). (72) Inventors; and (75) Inventors/Applicants (for US only): TÖRNQVIST, Tomas [SE/SE]; Slevringevägen 10, S-597 31 Ärvlidaberg (SE). MARMOLIN, Hans [SE/SE]; Nygatan 31A, S-58224 Linköping (SE). LINDBLOM, Kristofer [SE/SE]; Barnhemsgatan 12, S-58228 Linköping (SE). LINDBLOM, Jakob [SE/SE]; Arrendegatan 37, S-58131 Linköping (SE). AHLSTRÖM, Bengt [SE/SE]; Varbruksgatan 25, S-58332 Linköping (SE). (74) Agent: STENDEL, Klaus; Nokia GmbH, Patent Department, Meesmannstrasse 103, D-44807 Bochum (DE).</p>	<p>(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).</p> <p>Published With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</p>	

(54) Title: METHOD AND AN ARRANGEMENT FOR SCROLLABLE CROSS POINT NAVIGATION IN A USER INTERFACE



(57) Abstract

The invention relates to a method and an arrangement (10) for scrollable cross point navigation on a user interface (26) in order to select a feature by combining object fields. Bars (32, 34), where at least one of them is scrollable, have object fields which overlap and combine each other when scrolled or put to a visible focus area (30) in the user interface at the cross point of the bars (32, 34). Object fields in the focus area (30) select a feature connected to a combination of fields, which is chosen by a confirmation action.

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Method and an arrangement for scrollable cross point navigation in a user interface

Technical field

The present invention pertains to a method and an arrangement for scrollable cross point navigation in a user interface in order to select a feature by combining two object fields each belonging to each one bar.

Prior art

Traditional selection of services or adjustment of, for example, TV, set-top box, domestic appliances settings, and other like device settings has the disadvantage of covering an entire display area and requiring a lot of key-presses. This constitutes a major problem for most users of such equipment, but especially for disabled persons and those who are unfamiliar with or unsecured in setting electronic devices, or in reading manuals.

Another problem with today device settings, relating to manuals, is the language used in the manuals. It is often written in a technical logic language easy to understand for a technician, but perhaps hard to grasp for others.

Furthermore, some devices sold do not have a manual teaching settings in a language of a buyer of the same, or in a language of a non-native purchaser. Still further, it is a well known fact that remote control devices, such as for the setting of TV-sets, are crowded with keys, and that the design of key pads is different between different manufactures of like devices.

Hence, it is believed that an easy interface for setting of appliances is needed to overcome drawbacks and problems related to today appliance control interfaces.

Summary of the described invention

An aspect of the present invention is to provide a method and an arrangement that brings a solution to above problems and others related to the setting of appliances controlled by remote control devices such as wireless and pointing devices or even voice control devices. Suitable appliances to be controlled are amongst others, e.g. television sets, satellite receivers, set-top boxes, computers, household equipment, telephones, mobile phones, personal digital assistants, CD-players, stereo equipment etc, especially appliances provided with user interfaces such as display screens for interaction with remote control and other key pad devices.

In order to present a solution to said problems the present invention sets forth a method for scrollable cross point navigation on a user interface in order to select a feature by combining two object fields. Two bars are provided, where at least one of them is scrollable, each of them having at least one object field which overlap and combine each other when scrolled to a visible focus area in the user interface at the cross point of the bars. Thus, it is accomplished that object fields in the focus area select a feature connected to the combination of fields when chosen by a confirmation action.

In one embodiment of the invention, one feature function is defined as a sub cross point navigation method, i.e., another level of scrollable cross point navigation.

Another embodiment of the invention provides object fields that are visible, but where some may be invisible object fields in the bars, which are connected in a cyclic manner to each other.

Scrolling is accomplished by feeding or "zapping" up and down or left or right in order to move objects to the focus.

In still another embodiment an information field is displayed in the user interface comprising text describing the feature connected to the focus area.

In yet another embodiment the focus area is marked.

Yet another embodiment comprises that the bars are small thus making an image display on the screen possible even when all bars are visible. Also, the bars may be visibly transparent.

Preferably, in one embodiment, features in bar object fields are displayed in sequence in object fields in one of the bars when focus is confirmed.

An embodiment comprises that confirmation and scroll action is accomplished by actuating one of five function commands left, right, up, down, and OK or like confirmation.

In a further embodiment the focus area enables to show (bring about) all functions for any apparatus guided by cross point navigation through the function commands.

Furthermore, the present invention sets forth an arrangement for scrolled cross point navigation on a user interface in order to select a feature by combining two object fields, whereby it comprises:

two bars, where at least one of them is scrollable, each of them having at least one object field which overlap and combine each other when scrolled to a visible focus area in the user interface at the cross point of the bars; and

whereby object field means are used to select a feature connected to the combination of object fields in the focus area, which is chosen by confirmation and scrolling means.

One embodiment of the invention comprises that said object field means is an interaction interpreter between said input device and a graphic generator which is
5 connected to a graphic library for creating the bars and by them comprised function features or finite features.

Another embodiment comprises that said object field means further include a content database connected to said graphic generator and a user interface objects
10 database connected to said library and to said generator.

One embodiment includes that the arrangement according to the present invention is comprised in a set-top box.

The arrangement of the present invention is also able to accomplish embodiments of said method as claimed in the attached dependent arrangement claims.

15 Brief description of the drawings

For a more complete understanding of the present invention and for further aspects and advantages thereof, reference may now be had to the following description taken in conjunction with the accompanying drawings, in which:

20 Fig. 1 is a schematic block diagram illustrating one embodiment of means used to accomplish an arrangement in accordance with the present invention; and

Fig. 2a and 2b schematically illustrating a user interface in accordance with the present invention.

Detailed description of preferred embodiments

The present invention relates to a method and an arrangement for scrollable
25 cross point navigation on a user interface in order to select a feature comprised in a combination of two object fields. A cross point navigation ensures a creation of a system that allows a user of appliances such as digital TV set-top boxes to navigate and select different types of services in an easy way without disturbing the actual viewing experience of the user. It is also designed to assist the user in the forthcoming
30 expansion of both TV-channels and digital TV Services. There is a clear need for a system allowing cross point navigation as described.

Henceforth describing embodiments of the present invention by way of the setting control of a digital TV set-top box, the present invention is not restricted to such appliances. All kind of appliances with key pads, wireless or other remote control

functions can make use of the present invention, especially if they are equipped with a user interface such as a screen or display area and other interfaces where the control of an appliances is visually prompted. A Cross point navigation system according to the present invention could be used in many other contexts where the display area is
5 important to the user. The system could be displayed in infinite ways, allowing it to be adaptable for most cases of operation. Expansion possibilities of the system are unlimited which allows users to understand and interact with the system in very complex environments and still feel confident that they are in fully control of the interaction.

10 Cross point navigation is meant to allow a user of an appliance as much control as possible. Navigation principles according to the present invention allow the user to navigate to e.g. a TV channel or Service, herein described as features, desired with only four navigation keys on a remote control device. No confirmation is required until the requested object is in focus. This is accomplished by pressing, for example, an Ok
15 button or the like on the remote control.

Also, cross point has the benefit of being easily adaptable by users. Interaction is self-explanatory and once a user has made a first selection it is obvious how to proceed with other system possibilities of it. Every step of the interaction provides an immediate feedback.

20 Illustrated in Fig. 1 is a schematic block diagram showing means used to accomplish an arrangement 10 in accordance with the present invention which in one embodiment of the invention comprises an UI objects database 12, a Graphic library 14, a Graphic generator 16, an Externally supplied data means 18, a Content database 20, an Interaction interpreter 22, an Input device 24, and a User Interface 26.

25 The Input device 24 depicted in Fig. 1 is a means for controlling a User Interface 26. It could amongst others be a remote control for a set-top box, a keyboard for a PC or a control panel for a microwave oven. When a user wants to change the setting of the Interface 26 it is manipulated to transmit a signal to an Interaction interpreter 22.

30 An Interaction interpreter interprets signals from the Input device 24 and sends a corresponding action to a Graphic generator 16. The Interaction interpreter 22 transforms commands from the Input device 24 to actions provided by the Graphic generator 16.

35 Furthermore a Content database 20 is provided that contains information which can be presented in the User Interface 26. Samples of such information could be e.g. names of object fields (shown in Fig. 2a and 2b) containing function objects or finite

objects and help-texts that should be presented to users in a given context. A function object is mostly a more complex setting not directly leading to a setting of a feature for an appliance and a finite object mostly leads to a direct setting of a feature for an appliance. All material in the Content database 20 can be altered or edited by a content provider.

Externally supplied data 18 is a symbolic representation of any content that is inserted into the Content database 20 from any source.

Still further, the UI objects 12 database contains types of graphical objects that can be presented in the User Interface 26. Said database supplies a Graphic library 14 with generic representations of said types. Hence, the Graphic library 14 contains functions to manipulate the UI objects in the Interface 26. It supplies the Graphic generator 16 with specific instances from the UI objects 12 database.

The Graphic generator 16 handles the presentation of the User Interface 26 as well as manipulation accomplished by a user. Thereby it performs actions signaled by the Interaction interpreter 22 through collecting content from the Content database 20 and by merging the content with the Graphic library 14 and delivering presentation of a desired action to the User Interface 26. The User Interface 26 presents feedback of any action performed by users of the Interface 26.

Fig. 2a and 2b are schematically illustrating a user interface 26 in accordance with the present invention.

A user of an Interface 26 through the Input device 24 may, for example, select a combination of an object field comprising objects such as function features defining a setting and a finite object field comprising finite features, by feeding the object field comprising functions or the finite object field comprising finite features into a focus-area 30 with the User Interface 26. If a field with function features is located in a vertical bar, object fields A – G in Fig. 2a, is in focus 30 its function features / finite features are displayed in the horizontal bar 34. Likewise if a function feature in the horizontal bar 34, object fields F0 – F5 in Fig. 2a, is in focus 30, its finite features / function features are displayed in the vertical bar 32. Whenever an object field comprising objects such as function features is fed into the focus area 30 its content overwrites the content of the opposite (other) bar 32, 34.

Such interaction allows a user to navigate to a desired combination of object fields A-G and e.g. F0-F5 (shown in Fig. 1), A0-A5 (not shown), D0-D5 (not shown) etc without the manipulation of other keys than Right, Left, Up and Down on a keyboard or pad. A user then selects combined features in focus 30 by using a manipulation key or button such as Ok, confirm, select etc.

According to above a user can interact with the cross point method and/or arrangement according to the present invention in a zapping mode as comparing to the prior art of moving in a channel list.

Further, in one embodiment of the invention only the Focus Area 30 and an
5 information field 36, not entire bars 32, 34 are displayed in the user interface 26. Also, if entire bars 32, 34 are shown they can be transparent, thus allowing a more detailed view of a background picture e.g. TV picture 36, graphics etc. Bars 32, 34 do not necessarily need to be elongated in a straight line, the important feature is that the so called bars 32, 34 make up a focus area 30 when crossing each other. Moreover, the
10 focus area 30 may be marked, highlighted, shadowed etc, making it easier to observe for users.

Now referring to Fig. 2b illustrating an example of one possible change in the bars 32, 34, A-G and F0-F5 in Fig. 2a, when object fields F0 and F2 are combined in focus 30 making up object field F2:0 in focus 30. The combination was accomplished
15 by feeding the bar 34 object field F2 to the focus area 30, thus overwriting object field F0 in bar 32, which combination makes up a vertical bar 32 with new object fields F2:0-F2:5. The feeding direction is indicated by index 2:0 in F2:0, i.e., horizontal bar 34 fed to focus and F2 overlapping F:0.

Now referring to Fig. 2a and 2b for an example of one possible embodiment of
20 the present invention of setting a feature for a TV set equipped with a set-top box. Supposing that the vertical object field F0 in Fig. 2a comprises or contains the finite feature of making up a personal TV program or channel list with channels listed from program places 1, 2, 3, 4 ..., and that the horizontal object field F2 contains the finite feature of channel CNN™. Hence, by feeding the field F2 to F0 with the key for left or
25 right (circular bars) feeding with a key pad and thus overlapping field F0 and confirm the setting by pressing a confirmation key it is accomplished that object fields A-F0 in the vertical bar 32 are changed to comprise the object fields F2:0-F2:5 which contain a sequence of finite features defining a place in a personal channel list. By feeding F2:1 with the down or up key of the key pad 24 down to the focus area 30 and pressing the
30 confirmation key, the channel CNN™ is placed at position 1 in the personal channel list.

Moreover, giving an example of a function feature for a set-top box such a function could be to arrange all news channels available in series at a special position in the channel list, for example, at program positions 10-15 in the personal channel
35 list. This would be accomplished automatically when confirming the function feature with a confirmation key.

Summarized, the invention may be described as follows:

An electronic apparatus comprises a display on which a focus area is provided. The focus area is dedicated to display information which is necessary for a user to control the functions of the electronic apparatus.

- 5 The information to be shown to the user is divided into a number of individual items. These items are arranged in one or more levels. In any of the levels, the accompanying items are of similar detail.

10 The items of a first level are very general. In a second level, the items are more detailed than in the first level, but are still some kind of general. In a third level, the items are even more detailed than in the second level. And so on.

Furthermore, the items are linked according to their contents. This means that an item of the first level is linked to one or more items of the second level. As well, an item of the second level is linked to one or more items of the third level. And so on.

The items to be shown to the user may therefore be arranged as follows:

15 first level: A B C D E ...
 second level: A0 A1 A2 ... B0 B1 ... C0 C1 ... D0 ... E0 ...
 third level: A0:0 A0:1 ... B0:0 B0:1 ... C0:0 ... D0:0 ...
 fourth level: ...

20 wherein A, B, C, ... A0, A1, ... B0, ... A0:0, A0:1, ... are items in the various levels,
 and A, A0, A0:1, ... are items which are linked together wherein the linkage is
 expressed by the use of the same character.

With the above described structure, the items are arranged in a tree-like manner with any branch of the tree constituting a further level.

25 The electronic apparatus is provided with an input device for changing the items shown in the focus area. With this input device, a user is able to change the items of the focus area as follows:

On one hand, the user may change the items of the focus area within one and the same level. In this case, the user may change e.g. from A to B to C or from C1 to C0 or the like.

30 On the other hand, the user may change the items of the focus area from one level to another. In this case, the user may change e.g. from B to B1 or from D0:2 to D0 to D or the like.

For changing between the items of the various levels, there are at least two keys provided on the input device. The user may start to change between the items of the

first level by pressing the first key. Then, for changing to the second level, the second key is pressed. For changing between the items of the second level, the user continues to press the second key. Then, for changing to the third level, the first key is used again. For changing between the items of the third level, the user continues to press the first key. And so on.

As a result, the user may start with item A in the first level and may change within this level to all other items B, C, ... of this level by pressing the first key. Doing that, the user is able to read all items of this level and to select that item which is actually important for her/him. The selection is performed by bringing the important item into the focus area of the display.

If the important item is within the focus area, the user may change to the second level by pressing the second key. Due to the fact that the user has selected a specific item of the first level before changing to the second level, the displayed items in the second level are all linked to this specific item of the first level. E.g., if the user has selected item C in the first level, one of the linked items C0, C1, C2, ... of the second level is displayed after pressing the second key.

Then, the user may change within this second level to all linked items C0, C1, C2, ... of this second level by pressing the second key. The user may select that item which is important for her/him. This selection is performed by bringing the important item into the focus area of the display. If the important item is within the focus area, the user may change to the third level by pressing the first key again. And so on.

This leads to the following example of subsequent changes of items in the focus area:

A	first key
B	first key
25 C	second key
C0	second key
C1	second key
C2	second key
C3	second key
30 C4	first key
C4:0	first key
C4:1	first key
C4:2	...
...	

35 With such a sequence of changes of items within the focus area, the user is able to select at the end that item which corresponds to the function of the electronic

apparatus required by the user. Then, the user presses e.g. a confirmation key on the input device so that the required function is performed by the electronic apparatus.

As long as there is a possibility to change from one level to a next lower level, a combination of two items of these two levels is displayed in the focus area. The first
 5 item of the combination belongs to that level in which the user is actually performing changes. The first items, therefore, correspond to the items as described above. The second item of the combination of two items belongs to the next lower level. The two items to be displayed are linked together as described above.

As examples, the following combinations of two items may be displayed in the
 10 focus area:

B+B1
 F+F0
 D3+D3:5.

With the described first key of the input device, the user may change the
 15 combination displayed in the focus area as follows:

B+B1	first key
C+C1	first key
D+D1	...
...	

20 This means that the first key enables the user to change between the items of the first level.

With the described second key of the input device, the user may change the combination displayed in the focus area as follows:

B+B1	second key
25 B1+B1:0	second key
B1+B1:1	second key
B1+B1:2	...
...	

30 This means that the user may change with the second key from the first level into the second level and may then change between items of the second level.

If the user then presses the first key again, the combination displayed in the focus area includes items of the second and the third level and the user may then continue to change between items of the third level by pressing the first key.

Therefore, with any of the two keys, the user may change from a given level to
 35 the next lower level and may then change between the items of this lower level.

In the lowest level, there is only one item of this level being displayed in the focus area, e.g. F2:0. This item may then be selected by the user with the confirmation key of the input device, as already described.

Furthermore, it is possible to display not only the focus area but also a number
5 of additional areas on the display of the electronic apparatus. These additional areas may be displayed as a vertical bar and a horizontal bar as shown in figures 2a and 2b.

In this case, one item is displayed in any of the additional areas and the items displayed in the additional areas of the vertical bar belong to the next higher or lower level as the items in the additional areas of the horizontal bar.

10 If the user changes the item in the focus area, a shift of the vertical bar including the focus area or a shift of the horizontal bar including the focus area is performed. Such shifting or scrolling has the result that always that item is transferred into the focus area which was displayed as the neighboring item of the focus area in the vertical or horizontal bar prior to the shift.

15 The shifting or scrolling may be performed in both directions of the vertical and horizontal bar. For that purpose, the input device may provide four keys, i.e. an up and a down key for the vertical bar and a left and a right key for the horizontal bar.

With these four keys, it is also possible that the user also goes back to a higher level, e.g. from C4:1 to C4.

20 With these four keys of the input device, the user may change the combination displayed in the focus area as follows:

	G+G0	down key
	F+F0	down key
	E+E0	left key
25	E0+E0:0	left key
	E1+E1:0	left key
	E2+E2:0	right key
	E1+E1:0	up key
	E+E1	up key
30	F+F1	left key
	F1+F1:0	left key
	F2+F2:0	down key
	F2:0	down key
	F2:1	down key
35	F2:2	confirmation key,

wherein in the last three lines of the above example, no combination of two items is displayed as F2:0, F2:1, F2:2 relate to the lowest level. As a result of the example, the item F2:2 is selected by the user.

5 It is thus believed that the operation and construction of the present invention will be apparent from the foregoing description. While the method and arrangement shown or described has been characterized as being preferred it will be obvious that various changes and modifications may be made therein without departing from the spirit and scope of the invention as defined in the attached claims.

Claims

1. A method for scrollable cross point navigation in a user interface (26) in order to select a feature by combining two object fields (F0, F2), characterized in that two bars (32, 34), where at least one of them is scrollable, each of them having at least one object field (F0, F2) which overlap and combine (F2:0) each other when scrolled to a focus area (30) in the user interface (26) at the cross point of the bars, whereby object fields in the focus area (30) at the cross point select a feature connected with the combination of fields, which is chosen by a confirmation action.
2. A method according to claim 1, characterized in that a feature is a sub cross point navigation method.
3. A method according to claim 1 or 2, characterized in that there are visible and may be invisible object fields in the bars which are connected in a cyclic manner to each other.
4. A method according to claims 1-3, characterized in that the scrolling is accomplished by feeding up and down or left or right in order to move objects to the focus (30).
5. A method according to claims 1-4, characterized in that an information field (36) is displayed in the user interface, and comprises text describing the feature connected to the focus area (30).
6. A method according to claims 1-5, characterized in that the focus area is marked.
7. A method according to claims 1-6, characterized in that the bars are small thus making an image display on the screen possible even when bars (32, 34) are visible.
8. A method according to claims 1-7, characterized in that the bars are visibly transparent.
9. A method according to claims 1-8, characterized in that features in bar object fields (A-G; F0-F5) are displayed in sequence in object fields (F2:0-F2:5) in one of the bars (32) when focus (30) is confirmed.
10. A method according to claims 1-9, characterized in that confirmation and scroll action is accomplished by actuating one of five function commands.

11. A method according to claim 10, characterized in that the focus area (30) enables to show all functions for any apparatus guided by cross point navigation through the function commands.

5 12. An arrangement (10) for scrolled cross point navigation on a user interface (26) in order to select a feature by combining two object fields (F0, F2), characterized in that it comprises:

two bars (32, 34), where at least one of them is scrollable, each of them having at least one object field (F0, F2) which overlap and combine (F2:0) each other when scrolled to a focus area (30) in the user interface (26) at the cross point of the bars (32, 10 34); and

whereby object field means (14, 16, 22) are used to select a feature connected to the combination of object fields in the focus area, which is chosen by input means (24) for scrolling and confirmation.

13. An arrangement according to claim 12, characterized in that said object 15 field means is an interaction interpreter (22) between said input device (24) and a graphic generator (16) which is connected to a graphic library (14) for creating the bars (32, 34) and by them comprised function features or finite features.

14. An arrangement according to claim 13, characterized in that said object 20 field means further include a content database (20) connected to said graphic generator (16) and a user interface objects database (12) connected to said library (14) and to said generator (16).

15. An arrangement according to claim 14, characterized in that one function feature is a sub cross point navigation arrangement.

16. An arrangement according to claim 12-14, characterized in that there are 25 visible and may be invisible object fields in the bars which are connected in a cyclic manner to each other.

17. An arrangement according to claims 12-16, characterized in that the scrolling is accomplished by feeding means for up and down or left or right direction in order to move object field means to the focus (30).

18. An arrangement according to claims 12-17, characterized in that an 30 information field (36) is displayed in the user interface, and comprises text describing the feature connected to the focus area.

19. An arrangement according to claims 12-17, characterized in that the focus area is marked.

20. An arrangement according to claims 12-19, characterized in that the bars are small, thus making a display in the user interface possible even with all bars
5 visible.

21. An arrangement according to claims 12-20, characterized in that the bars are visibly transparent.

22. An arrangement according to claims 12-21, characterized in that features in bar object fields are displayed in sequence (F2:0-F2:5) in object fields in one of the
10 bars (32) when focus (30) is confirmed.

23. An arrangement according to claims 12-22, characterized in that confirmation and scroll action is accomplished by actuating means with five function commands.

24. An arrangement according to claim 23, characterized in that the focus area
15 enables to show all functions for any apparatus guided by cross point navigation through the function commands.

25. An arrangement according to claim 12-24, characterized in that it is comprised in a set-top box.

26. A method of displaying information on a display of an electronic
20 apparatus, wherein the information to be displayed is divided into a number of items, wherein the items are arranged in one or more levels, and wherein one or more items of a level are linked to an item of a next higher level, wherein a focus area is provided on the display of the electronic apparatus, and wherein a combination of two linked items of two neighboring levels is displayed in the focus area.

25 27. The method of claim 26, wherein an input device with at least two keys is provided, and wherein the combination of items in the focus area may be changed from a given level to the next lower level by one of the two keys and may then be changed between the items of this lower level by the same key.

30 28. The method of claim 27, wherein the combination of items in the focus area may be changed to the items of another next lower level by the other one of the two keys.

29. The method of one of claims 26 to 28, wherein additional areas are provided for displaying further items on the display of the electronic apparatus, and wherein the focus area and the additional areas are displayed as a vertical and a horizontal bar.

5 30. The method of claim 29, wherein the items displayed in the additional areas of the vertical bar belong to a next higher or lower level as the items in the additional areas of the horizontal bar.

10 31. The method of one of claims 29 or 30, wherein the items of the vertical bar including the focus area as well as the items of the horizontal bar including the focus area may be shifted in both directions.

32. The method of claim 31, wherein the input device provides two keys to shift the vertical bar up and down and two keys to shift the horizontal bar to the left and right.

15 33. The method of one of claims 26 to 32, wherein the input device provides a confirmation key to select the item displayed in the focus area.

34. A computer program, which is stored on a computer readable storage media, and which is suitable to perform the method of one of claims 26 to 33 when it is run on a digital computer.

20 35. A computer program product, which is directly loadable into the internal memory of a digital computer, and which comprises a computer program for performing the method of one of claims 26 to 33 when said program is run on said computer.

25 36. An electronic apparatus comprising a display for displaying information, wherein the information to be displayed is divided into a number of items, wherein the items are arranged in one or more levels, and wherein one or more items of a level are linked to an item of a next higher level, wherein a focus area is provided on the display of the electronic apparatus, and wherein a combination of two linked items of two neighboring levels is displayed in the focus area.

30 37. The apparatus of claim 36, wherein an input device with at least two keys is provided, and wherein the combination of items in the focus area may be changed from a given level to the next lower level by one of the two keys and may then be changed between the items of this lower level by the same key.

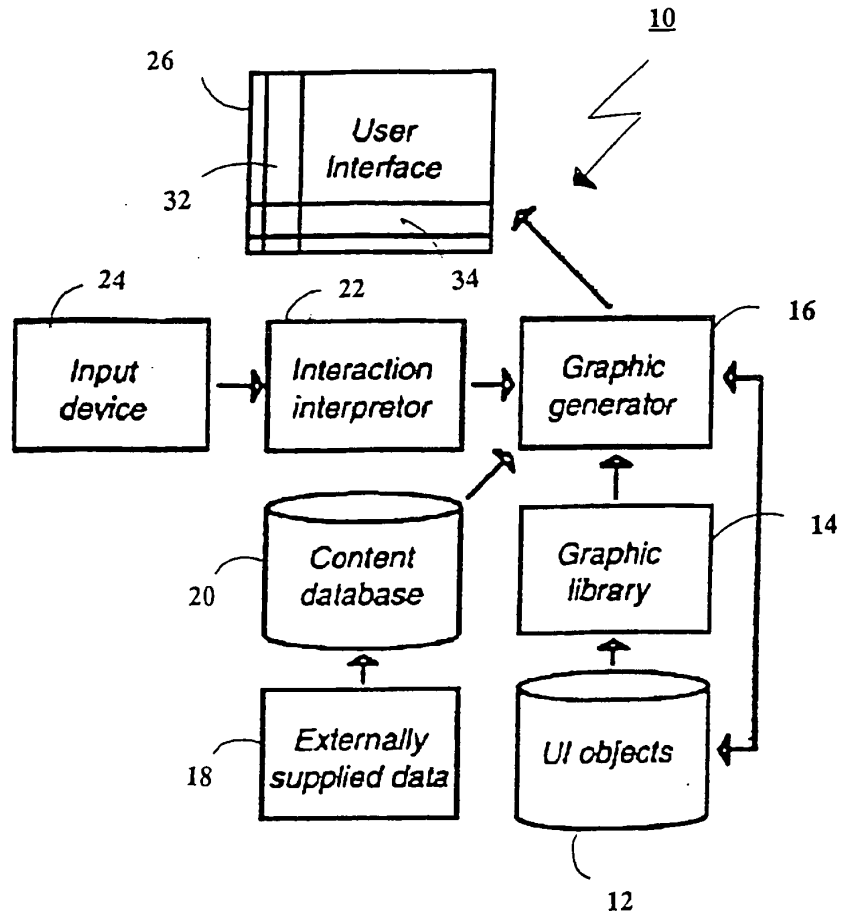


Fig. 1

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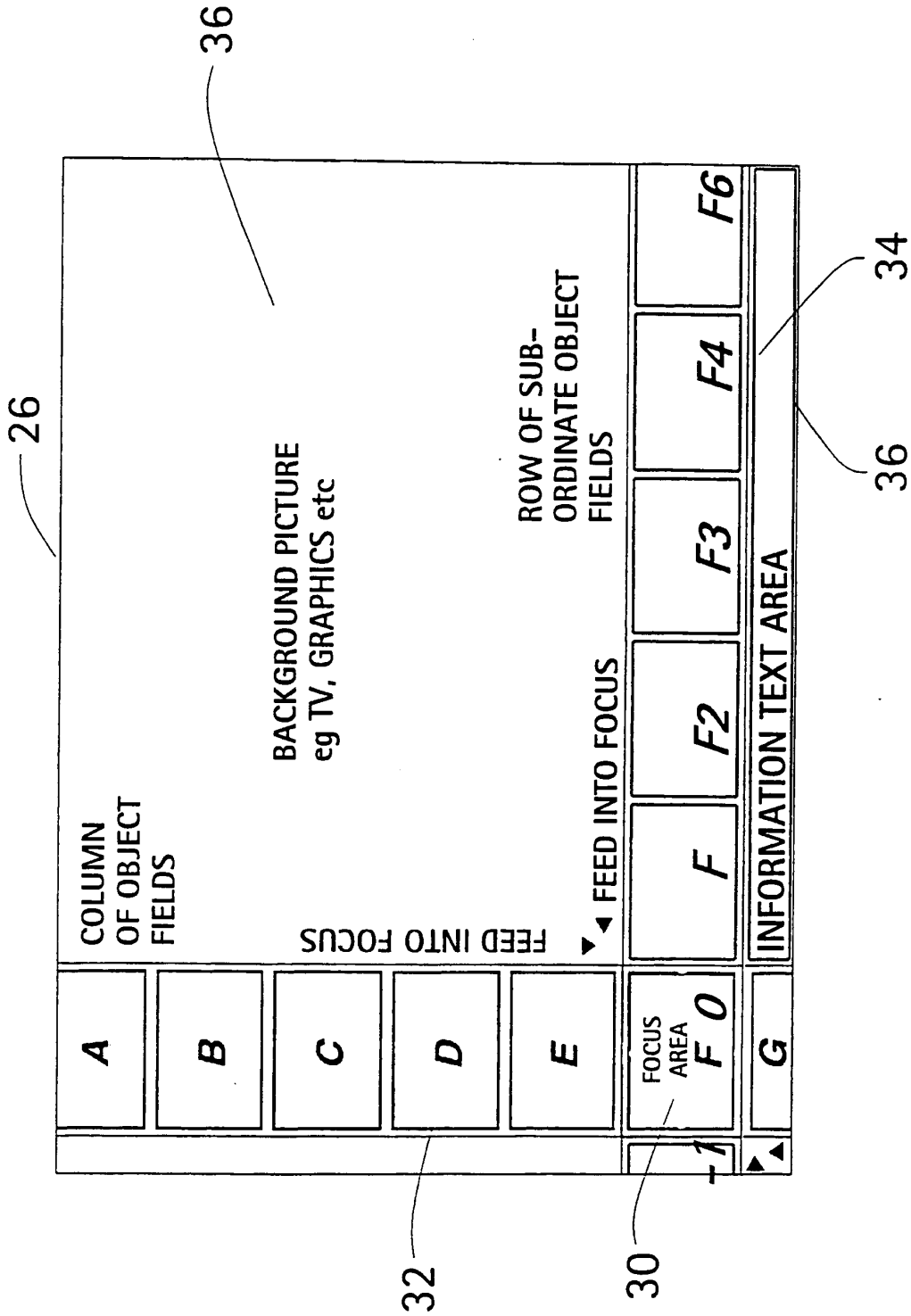


Fig.2a

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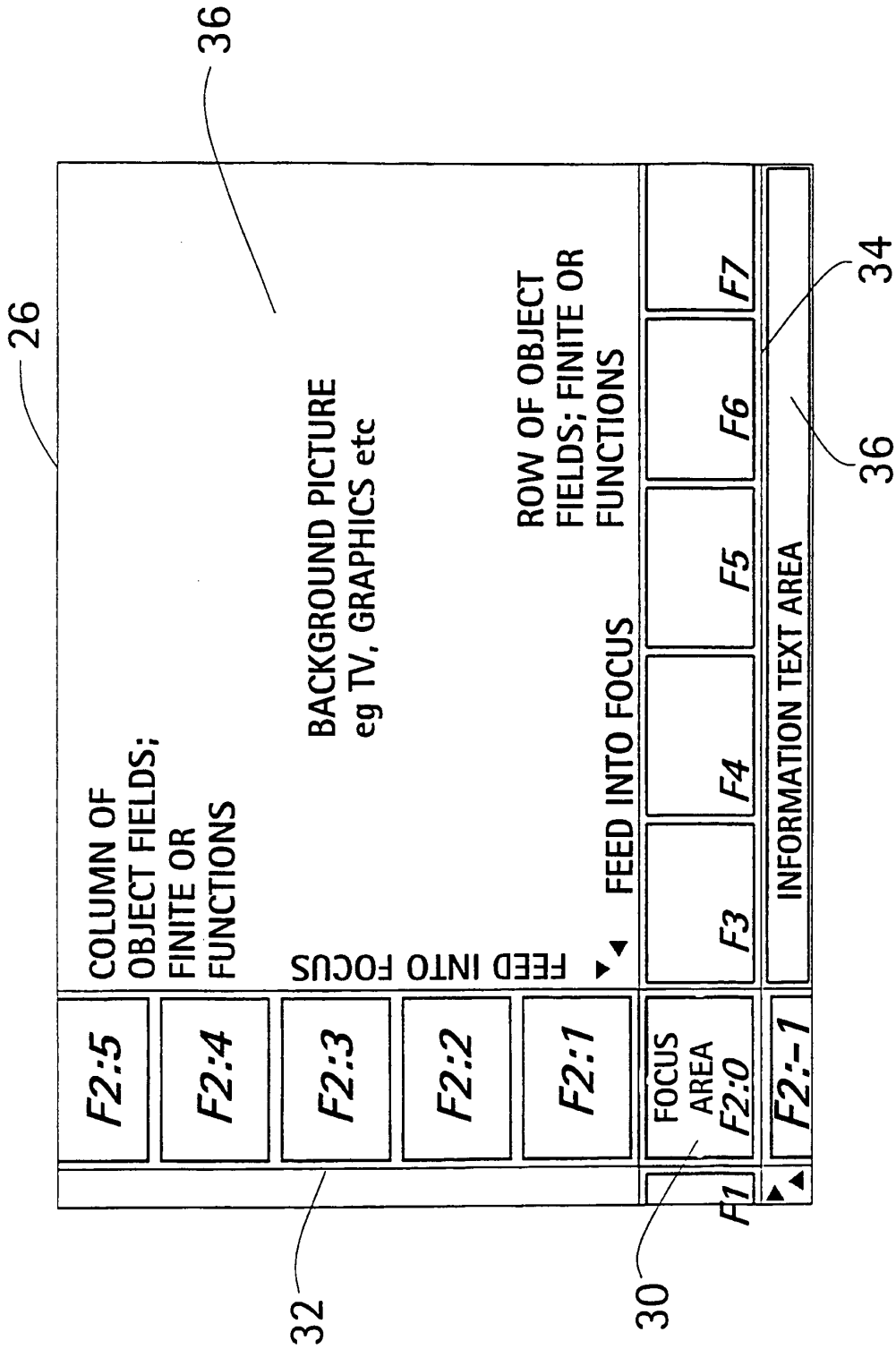


Fig. 2b

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP 00/03637

A. CLASSIFICATION OF SUBJECT MATTER IPC 7 G06F3/033				
According to International Patent Classification (IPC) or to both national classification and IPC				
B. FIELDS SEARCHED				
Minimum documentation searched (classification system followed by classification symbols) IPC 7 G06F				
Documentation 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 practical, search terms used) EPO-Internal, PAJ, WPI Data, IBM-TDB				
C. DOCUMENTS CONSIDERED TO BE RELEVANT				
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.		
X	US 5 059 965 A (GEISER GEORG) 22 October 1991 (1991-10-22) the whole document	1, 12		
Y		3-11, 13, 14, 16, 17, 19-26, 33-36 27-32, 37		
A	---			
X	EP 0 645 604 A (PEUGEOT ;CITROEN SA (FR)) 29 March 1995 (1995-03-29) the whole document	1, 12		

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<input checked="" type="checkbox"/> Further documents are listed in the continuation of box C. <input checked="" type="checkbox"/> Patent family members are listed in annex.				
* Special categories of cited documents :				
<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none; vertical-align: top;"> "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed </td> <td style="width: 50%; border: none; vertical-align: top;"> "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. "&" document member of the same patent family </td> </tr> </table>			"A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. "&" document member of the same patent family
"A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. "&" document member of the same patent family			
Date of the actual completion of the international search	Date of mailing of the international search report			
11 August 2000	21/08/2000			
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3018	Authorized officer Davenport, K			

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP 00/03637

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	<p>US 5 677 708 A (MATTHEWS III JOSEPH H ET AL) 14 October 1997 (1997-10-14)</p> <p>abstract column 9, line 56 -column 19, line 13 column 12, line 54 -column 16, line 51; figures 3-8</p> <p>---</p>	<p>3-7, 9-11,13, 14,16, 17,19, 20, 22-26, 33-36</p>
Y	<p>US 5 283 560 A (BARTLETT JOEL F) 1 February 1994 (1994-02-01) abstract; figure 3A</p> <p>---</p>	<p>8,21</p>
A	<p>US 5 289 573 A (HARADA KAYOKO ET AL) 22 February 1994 (1994-02-22) abstract column 2, line 47 - last line; figures 9A-C</p> <p>-----</p>	<p>2,5,15, 18</p>

1

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information on patent family members

International Application No
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US 5059965	A	22-10-1991	DE 3712360 A DE 3867851 A WO 8808119 A EP 0417077 A JP 2503045 T	27-10-1988 27-02-1992 20-10-1988 20-03-1991 20-09-1990
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