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Beaton et al.

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(54) **INTELLIGENT TOUCH DISPLAY**

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(*) Notice: This patent issued on a continued prosecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 U.S.C. 154(a)(2).

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

This patent is subject to a terminal disclaimer.

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(51) **Int. Cl.**⁷ **G09G 5/00**

(52) **U.S. Cl.** **345/173; 345/358**

(58) **Field of Search** **345/173, 174, 345/358-359, 326, 179, 180, 433, 352-353, 356, 354, 357, 355, 975, 348, 146, 339; 178/18.01, 18.03, 18.04**

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,954,967	9/1990	Takahashi	345/173
5,297,253	3/1994	Meisel	345/357
5,512,707	4/1996	Ohshima	84/658
5,563,996	10/1996	Tchao	207/521
5,570,109	10/1996	Jenson	345/146

(List continued on next page.)

FOREIGN PATENT DOCUMENTS

0 156 593	10/1985	(EP)	.
0 565 253	10/1993	(EP)	.
0 605 945	7/1994	(EP)	.
0 609 021	8/1994	(EP)	.
0 684 543	11/1995	(EP)	.
2 301 217	11/1996	(GB)	.
4-060715	2/1992	(JP)	.
4-165522	6/1992	(JP)	.
4-199416	7/1992	(JP)	.
4-237324	8/1992	(JP)	.
4-278627	10/1992	(JP)	.
5-189150	7/1993	(JP)	.
8-307954	11/1996	(JP)	.
9-231006	9/1997	(JP)	.
WO 92 16900	10/1992	(WO)	.
WO 94 28505	12/1994	(WO)	.

OTHER PUBLICATIONS

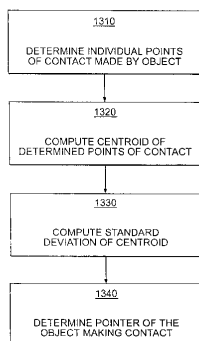
Kurtz, Max "Handbook of Applied Mathematics for Engineers and Scientists" pp. 8.24, 12.65-12.66, 1991.*
IBM Technical Disclosure Bulletin, "Scroll Control Box," vol. 36, No. 4, Apr. 1993, pp. 399-403.
IBM Technical Disclosure Bulletin, "Data Interpretation Techniques for Pen-based Computer," vol. 38, No. 9, p. 461, Sep. 1995.

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(57) **ABSTRACT**

The system and method consistent with the present invention provides a touch-responsive graphical user interface for electronic devices. The graphical user interface determines a pointer size of the object making contact with a display and activates a function corresponding to the pointer size. The graphical user interface may invoke a wide array of functions such as a navigation tool, draw function, an erase function, or a drag function. The graphical user interface of the present invention may be especially useful in portable electronic devices with small displays.

31 Claims, 15 Drawing Sheets



U.S. PATENT DOCUMENTS

5,590,257	12/1996	Forcier	707/530	5,777,605	7/1998	Yoshinobu et al.	345/173
5,592,195	1/1997	Misono et al.	345/146	5,790,106 *	8/1998	Hirano et al.	345/173
5,600,765	2/1997	Ando et al.	345/433	5,796,406	8/1998	Shigematsu et al.	345/358
5,745,116	4/1998	Pisutha-Arnonnd	345/358	5,808,605	9/1998	Shieh	345/173
5,745,716	4/1998	Tehao et al.	345/350	5,809,257	9/1998	Moran et al.	345/358
5,748,926	5/1998	Fukuda et al.	345/326	5,812,134	9/1998	Pooser et al.	345/356
5,760,773	6/1998	Berman et al.	345/347	5,825,352	10/1998	Bisset et al.	345/173

* cited by examiner

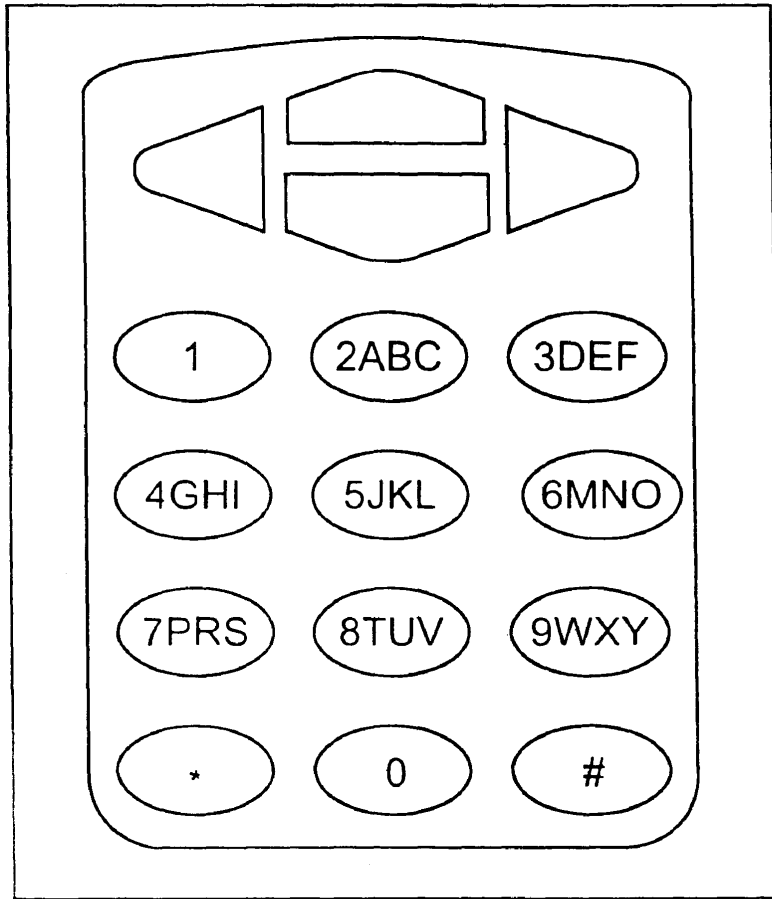


FIG. 1

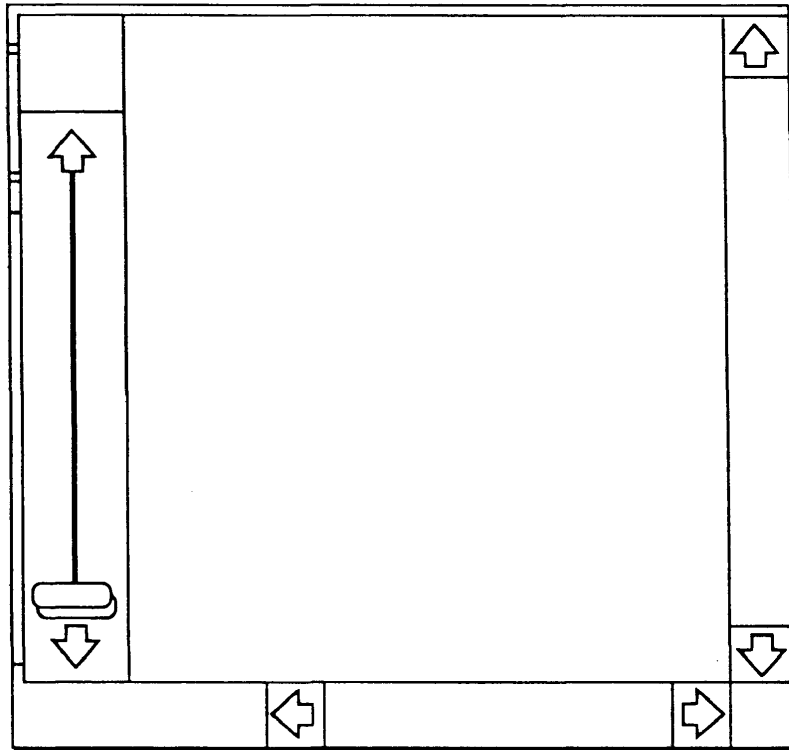


FIG. 2

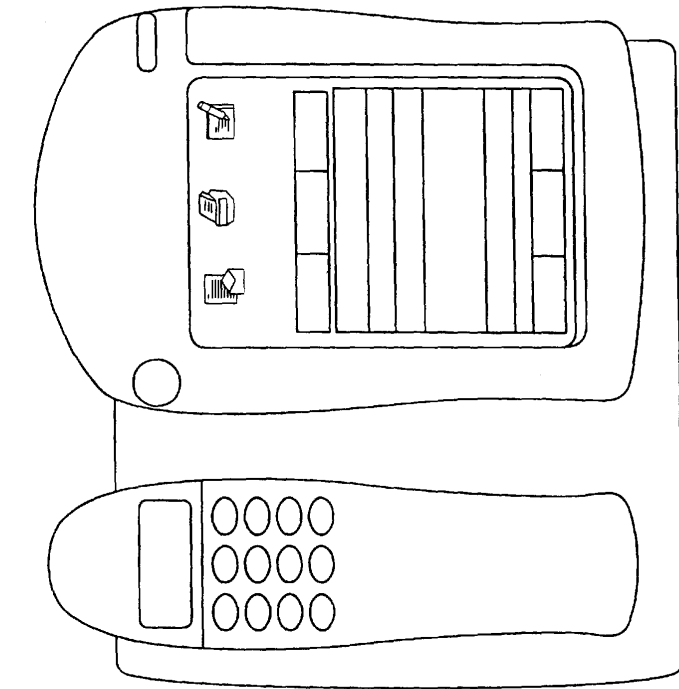
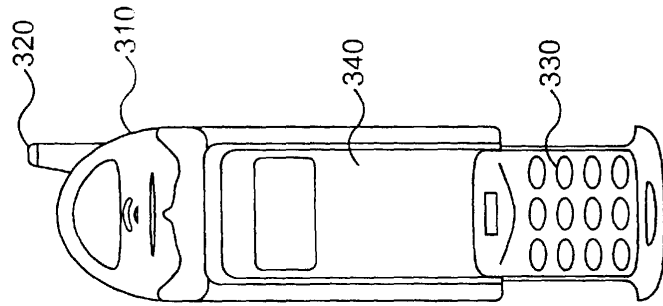


FIG. 3B



MOBILE TELEPHONE 310

FIG. 3A

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