



**UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

SERIAL NUMBER	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/228,460    04/15/94    BEERNINK

E    P1017C053A

EXAMINER  
LAU, L

26M2/1128

ART UNIT    PAPER NUMBER

PAUL L. HICKMAN  
HICKMAN & BEYER  
P. O. BOX 61059  
PALO ALTO, 94306

23

2609

DATE MAILED:    11/28/95

This is a communication from the examiner in charge of your application.  
COMMISSIONER OF PATENTS AND TRADEMARKS

This application has been examined     Responsive to communication filed on 8/31/95     This action is made final.

A shortened statutory period for response to this action is set to expire three month(s), \_\_\_\_\_ days from the date of this letter.  
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

**Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:**

- |   |   |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input type="checkbox"/> Notice of Draftsman's Patent Drawing Review, PTO-948. |
| 3. <input type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449.                 | 4. <input type="checkbox"/> Notice of Informal Patent Application, PTO-152.       |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474.     | 6. <input type="checkbox"/> _____   |

**Part II SUMMARY OF ACTION**

- Claims 1-25 are pending in the application.  
Of the above, claims \_\_\_\_\_ are withdrawn from consideration.
- Claims 4, 12 and 21-23 have been cancelled.
- Claims \_\_\_\_\_ are allowed.
- Claims 1-3, 11-20 and 24-25 are rejected.
- Claims \_\_\_\_\_ are objected to.
- Claims \_\_\_\_\_ are subject to restriction or election requirement.
- This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
- Formal drawings are required in response to this Office action.
- The corrected or substitute drawings have been received on \_\_\_\_\_. Under 37 C.F.R. 1.84 these drawings are  acceptable;  not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).
- The proposed additional or substitute sheet(s) of drawings, filed on \_\_\_\_\_, has (have) been  approved by the examiner;  disapproved by the examiner (see explanation).
- The proposed drawing correction, filed \_\_\_\_\_, has been  approved;  disapproved (see explanation).
- Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has  been received  not been received  been filed in parent application, serial no. \_\_\_\_\_; filed on \_\_\_\_\_.
- Since this application appears to be 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.
- Other

**EXAMINER'S ACTION**

Art Unit: 2609

1. The finality of the previous office action is withdrawn in view of newly discovered prior art to Sach et al, More et al and Agulnick et al. The delay in the citation of this art is regretted. Rejections based on the newly discovered art follow.
2. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

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.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

3. Claims 1-3, 5, 7-11, 13, 16-19, 20 and 24 are rejected under 35 U.S.C. § 103 as being unpatentable over Sach et al.

Sach et al teach a method for providing a gesture sensitive button comprising a digital processor(24); a display screen(11) connected to the digital processor(24); a pointer(a finger); a touch sensitive surface for detecting the position of pointer on the touch sensitive surface, a button image(22a or 22b) and gesture recognition means(21 and 24) for detecting gestures made by the pointer(a finger)(see figure 2; column 2, lines 18-68 and

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column 3, lines 1-8). The processor(24) can be able to response to at two different button gesture made by the pointer over the button image(22a or 22b) without any intermediate input(see column 3, lines 34-41).

Sach et al fail to disclose a touch sensitive surface co-extensive with a display screen. More et al disclose a graphical interface system comprising a touch-sensitive surface(41-60, 62) for detecting the position of pointer( a pen or a finger). The surface(41-60, 62) is co-extensive with the display screen(1)(see figure 1 and column 12, lines 4-46). It would have been obvious the have modified Sach et al with the teaching of More et al, so as to save the space for setting up a separate touch-sensitive panel and to be more easy for a user to carry or move the input system.

As to claims 3, 11, 19, More et al teaches a pointer can be a stylus or a finger and the touch-sensitive surface(41-60, 62) with a bounding box(see figure 1 and column 1, lines 42-47).

As to claim 2, More et al teach a pointer(3) are part of a pen-base computer system(see figure 2 and column 12, lines 4-12).

As to claims 7 and 9-10, Sach et al teach button image(53A, 53B, 59, 62) for presenting an altered image(Left Margin, Right Margin or handwritten text) based on the detection of a button gesture(see figures 1-2; column 12, lines 47-68 and column 13, lines 1-14).

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-4-

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As to claims 5 and 13, More et al teach one of the button gesture is tap; e.g. select a button(45) (see figure 1).

As to claim 20, Sach et al teach button gestures(a finger) overlap at least approximately 40% of the bounding box(22a or 22b) (see figure 1).

4. Claims 6, 14, 15 and 25 are rejected under 35 U.S.C. § 103 as being unpatentable over Sach et al in view of More et al and Agulnick et al.

Sach et al as modified by More et al fail to disclose check marks and X-marks gestures. Agulnick et al teach a computer system comprising a touch-sensitive surface(10), a pointer(stylus or pen) for entering check-marks(652) and X-marks(629) gestures to a computer(see figures 1, 2, 24, 45, 53, 54; column 6, lines 11-31; column 12, lines 3-7 and column 13, lines 28-39). It would have been obvious to have modified the combination of Sach et al and More et al with the teaching of Agulnick et al, so as to allow a computer to discern the natural movement of the operator's hand at the end of drawing and initiate processing or recognition and to offer better feedback to the operator.

5. Applicant's arguments with respect to claims 1-3, 5-11, 13-20 and 24-25 have been considered but are deemed to be moot in view of the new grounds of rejection.

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

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Art Unit: 2609

Tchao et al teach a method for manipulating notes on a screen of a computer display.

7. Any inquiry concerning this communication should be directed to Lun-Yi, Lao at telephone number (703) 305-4873.

November 17, 1995

*Lun - Yi Lao*

Lun-Yi, Lao



RICHARD HJERPE  
SUPERVISORY PATENT EXAMINER  
GROUP 2600

FORM PTO-892 (REV. 2-92)	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	SERIAL NO.	GROUP/ART UNIT	ATTACHMENT TO PAPER NUMBER
NOTICE OF REFERENCES CITED		APPLICANT(S)		

**U.S. PATENT DOCUMENTS**

*	A	DOCUMENT NO.	DATE	NAME	CLASS	SUB-CLASS	FILING DATE IF APPROPRIATE
✓	A	4139837	2/79	LILJENWALL	340	146.35Y	
✓	B	4545023	10/85	MIZZI	364	709	
✓	C	4972496	11/90	SKLAREW	382	13	
	D						
	E						
	F						
	G						
	H						
	I						
	J						
	K						

**FOREIGN PATENT DOCUMENTS**

*	A	DOCUMENT NO.	DATE	COUNTRY	NAME	CLASS	SUB-CLASS	PERTINENT SHTS. DWG.	PP. SPEC.
	L	2193023	1/88	UK	CULLUM	G06K	9/00		
	M								
	N								
	O								
	P								
	Q								

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

R	
S	
T	
U	

EXAMINER <i>AARON BANERJEE</i>	DATE <i>19 MAY 1993</i>
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\* A copy of this reference is not being furnished with this office action.  
(See Manual of Patent Examining Procedure, section 707.05 (a).)



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Patent and Trademark Office**

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Washington, D.C. 20231

SERIAL NUMBER	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/228,460 04/15/94 BEERNINK

E P10170053A

EXAMINER  
LAO, L

26M2/0409

ART UNIT PAPER NUMBER

PAUL L. HICKMAN  
HICKMAN & BEYER  
P. O. BOX 61059  
PALO ALTO, 94306

24

2609

DATE MAILED: 04/09/96

This is a communication from the examiner in charge of your application.  
COMMISSIONER OF PATENTS AND TRADEMARKS

This application has been examined  Responsive to communication filed on \_\_\_\_\_  This action is made final.

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1.  Claims 1-25 are pending in the application.

Of the above, claims \_\_\_\_\_ are withdrawn from consideration.

2.  Claims 4, 12 and 21-23 have been cancelled.

3.  Claims \_\_\_\_\_ are allowed.

4.  Claims 1-3, 5-11, 13-20 and 24-25 are rejected.

5.  Claims \_\_\_\_\_ are objected to.

6.  Claims \_\_\_\_\_ are subject to restriction or election requirement.

7.  This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.

8.  Formal drawings are required in response to this Office action.

9.  The corrected or substitute drawings have been received on \_\_\_\_\_. Under 37 C.F.R. 1.84 these drawings are  acceptable;  not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).

10.  The proposed additional or substitute sheet(s) of drawings, filed on \_\_\_\_\_, has (have) been  approved by the examiner;  disapproved by the examiner (see explanation).

11.  The proposed drawing correction, filed \_\_\_\_\_, has been  approved;  disapproved (see explanation).

12.  Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has  been received  not been received  been filed in parent application, serial no. \_\_\_\_\_; filed on \_\_\_\_\_.

13.  Since this application appears to be 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.

14.  Other

**EXAMINER'S ACTION**

Art Unit: 2609

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

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

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

2. Claims 1-3, 5-11, 13-20, 24 and 25 are rejected under 35 U.S.C. § 103 as being unpatentable over Agulnick et al in view of More et al.

Agulnick et al teach a method for providing a gesture sensitive button comprising a digital processor(50); a display screen(10) connected to the digital processor(50); a pointer(4)(see figures 1, 2 and column 6, lines 26-31); a touch sensitive surface(12)(see figures 1, 2 and column 8, lines 59-60) for detecting the position of pointer on the touch sensitive surface(12); a button image(190)(see figure 4) and gesture recognition means(70, 90)(see figure 4) for detecting gestures(single tap(621) and double-tap(622))(see figures 4, 45 and column 11, lines 4-18) made by the pointer(4). The



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processor(50) can be able to response to at two different button gestures(a single tap(621) and a double tap(622)) made by the pointer(4) over the button image(190) without any intermediate input(see figures 3, 4, 45).

Agulnick et al fail to disclose a touch sensitive surface co-extensive with a display screen. More et al disclose a graphical interface system comprising a touch-sensitive surface(41-60, 62) for detecting the position of pointer( a pen or a finger). The surface(41-60, 62) is co-extensive with the display screen(1)(see figure 1 and column 12, lines 4-46). It would have been obvious the have modified Agulnick et al with the teaching of More et al, so as to distinguish the display area and touch sensing area.

As to claims 3, 11, 19, More et al teaches a pointer can be a stylus or a finger and the touch-sensitive surface(41-60, 62) with a bounding box(see figure 1 and column 1, lines 42-47).

As to claim 2, More et al teach a pointer(3) are part of a pen-base computer system(see figure 2 and column 12, lines 4-12).

As to claims 7 and 9-10, Agulnick et al teach a button image(180) for presenting an altered image(next page) based on the detection of a button gesture(see figure 4 and lines 17-28).

As to claims 5 and 13, More et al teach one of the button gesture is tap; e.g. select a button(45)(see figure 1).

Serial Number:08/228,460

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Art Unit: 2609

As to claim 20, button gestures(a single tap and double tap) overlap at least approximately 40% of the bounding box(190) (see figure 4) is obvious design choice it would depend how large the pointer would be.

As to claims 6, 14, 15 and 25, Agulnick et al teach a computer system comprising a touch-sensitive surface(10), a pointer(stylus or pen) for entering check-marks(652) and X-marks(629) gestures to a computer(see figures 1, 2, 24, 45, 53, 54; column 6, lines 11-31; column 12, lines 3-7 and column 13, lines 28-39).

3. Applicant's arguments with respect to claims 1-3, 5-11, 13-20 and 24-25 have been considered but are deemed to be moot in view of the new grounds of rejection.

4. Any inquiry concerning this communication should be directed to Lun-Yi, Lao at telephone number (703) 305-4873.

April 4, 1996

*Lun-Yi Lao*  
Lun-Yi, Lao



RICHARD HJERPE  
SUPERVISORY PATENT EXAMINER  
GROUP 2600



I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231 on July 9, 1996.

*Melissa Van Trease*  
Melissa Van Trease

PATENT

2609  
25/Kylin  
/Recons.  
7-26-96

Client/Attorney Docket No.: P1017C/APL1P53A

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

BEERNINK, *et al.*

Serial No.: 08/228,460

Filed: April 15, 1994

FOR: GESTURE SENSITIVE BUTTONS FOR  
GRAPHICAL USER INTERFACES

Examiner: Lao, L.

Art Unit: 2609

**RESPONSE**

The Honorable Commissioner of Patents and Trademarks  
Washington, D. C. 20231

Sir:

The Applicants in the above-identified matter respectfully request reconsideration of the objections and rejections set forth in the Office Action mailed April 9, 1996, in view of the following remarks.

*REMARKS*

Claims 1-3, 5-11, 13-20, 24, and 25 remain pending in the present application. The Applicants acknowledge the Examiner's withdrawal of the rejections set forth in the Office Action mailed November 28, 1995, in view of the new grounds for rejection set forth in the Office Action mailed April 9, 1996. *See*, Examiner Interview Summary dated April 3, 1996.

Presently, all pending claims stand rejected as allegedly obvious over U.S. Patent No. 5,347,295 to Agulnick, *et al.*, ("Agulnick") in view of U.S. Patent No. 5,194,852 to More, *et al.* ("More"). The Examiner asserts that Agulnick teaches, *inter alia*, "a method for providing a gesture sensitive button" while More teaches, *inter alia*, "a touch-sensitive display screen." Office Action mailed April 9, 1996, at 2 and 3. These rejections are respectfully traversed in view of the following remarks.

In one aspect, the present invention provides gesture-sensitive, multi-function buttons for a graphical user interface. In one embodiment, the button of the invention includes a digital processor which is coupled to a display screen. A pointer for pointing to locations on the display screen is also included. This embodiment of the invention further includes a touch-sensitive surface co-extensive with the display screen and responsive to the position of the pointer on the touch-sensitive surface. Displayed on the display screen is a button image which image is responsive without any intermediate input to at least two different button gestures made by the pointer on the display screen at any location over said button region. Finally, gesture recognition means for detecting gestures made on the display screen by the pointer is provided. The gesture recognition means is operative to initiate a process in the digital processor that is determined by a recognizable button gesture made with the pointer on the display screen which gesture both selects the button image and which has meaning to the digital processor based upon a context associated with said button image. The gesture recognition means is arranged such that the function associated with each of the button gestures will be initiated and executed in an identical manner regardless of the location over the button image that the gesture was made.

The gesture-sensitive, multi-function buttons provided by the present invention will be appreciated as reducing screen clutter by combining the control of several functions and/or processes with a single button that is displayed on the graphical user interface. Such conservation of display "real estate" is very useful in computer systems having limited display size, such as laptop computers and personal digital assistants.

The Examiner asserts that Agulnick teaches gesture-sensitive buttons that respond to one- or two-tap gestures. *Id.* In support of this assertion, the Examiner suggests that Agulnick teaches the use of tab markers that can accept single or double taps. *Id.* at 3.

However, the Applicants respectfully submit that Agulnick actually *teaches away* from the present invention by describing "gesture areas", capable of handling multiple gestures, which gesture areas are distinct from buttons that can handle only a single tap:

Gestures have a strong advantage over visible controls. There may be, for a given computer action or command, both a gesture which can be drawn in a gesture area and a button or other command symbol which may be tapped to carry out the command. However, in the present invention, *the gesture area which is sensitive to the command gesture is preferably much larger than the corresponding button or the like which may be tapped to accomplish the same command.* This is due to the fact that a given region of the display can distinguish between many gestures and can display

changeable information, while *a button must be labelled in some static way and can only accept a tap.*

Agulnick at Column 10, lines 1–14 (emphasis added). Thus, Agulnick teaches graphical user interfaces in which certain regions, called gesture areas, can accept and process multiple user gestures. Agulnick, however, maintains the prior art's teaching with respect to buttons, *i.e.*, Agulnick teaches a graphical user interface in which buttons are responsive to a single gesture only to initiate a single response, and, therefore, does not show or suggest the present invention.

Thus, the Applicants respectfully submit that the tab markers to which the Examiner refers are not "buttons" are required by the rejected claims, but rather are interface devices that correspond to the above-described "gesture areas" which, Agulnick teaches, are distinct from buttons. Indeed, as the quote above indicates, Agulnick teaches that buttons respond solely to a single gesture (*i.e.*, a tap) to provide a single response. Indeed, Agulnick's interface design does nothing to relieve the display clutter found on most small computer devices (*e.g.*, laptops and PDAs). Thus, Agulnick cannot be said to show or suggest the present invention.

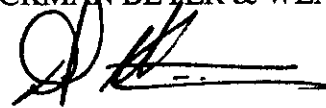
More does nothing to overcome the deficiencies of Agulnick. More is directed solely to teaching touch-sensitive screens that are co-extensive with displays and are responsive to pointer devices. More does not show or suggest the multi-gesture sensitive buttons provided by the present invention as claimed.

Therefore, the Applicants respectfully submit that neither Agulnick nor More, alone or in combination, shows or suggests the present invention. Withdrawal of the rejections of the above-listed claims is therefore respectfully requested.

*CONCLUSION*

For the reasons presented above, the Applicants respectfully submit that the claims pending in the above-identified application are in condition for allowance. A Notice of Allowance is therefore respectfully requested. Should any unresolved issues remain, the Examiner is encouraged to contact the undersigned at the telephone number provided below.

Respectfully submitted,  
HICKMAN BEYER & WEAVER



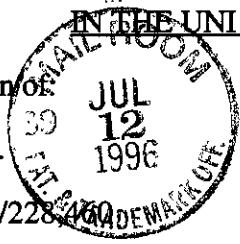
David P. Lentini  
Registration No. 33,944

Date: July 9, 1996

HICKMAN BEYER & WEAVER  
P.O. Box 61059  
Palo Alto, CA 94306-1900

Tel: (415) 493-6400

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**



In re application of )  
 Beernink, et al. )  
 Serial No.: 08/228,460 )  
 Filed: April 15, 1994 )  
 For: GESTURE SENSITIVE BUTTONS FOR )  
 GRAPHICAL USER INTERFACES )

Attorney Docket No.: P1017C/APL1P053A  
 Examiner: Lao, L.  
 Group Art Unit: 2609  
 Date: July 9, 1996

**CERTIFICATE OF MAILING**

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail to: Commissioner of Patents and Trademarks, Washington, DC 20231 on July 9, 1996.

Signed: Melissa Van Grease  
 Melissa Van Grease

Commissioner of Patents and Trademarks  
 Washington, DC 20231

Transmitted herewith is a Response in the above-identified application.  
 The fee has been calculated as shown below.

	Claims Remaining After <u>Amendment</u>	Highest Previously <u>Paid For</u>	Present <u>Extra</u>	<u>SMALL ENTITY RATE FEE</u>	OR	<u>LARGE ENTITY RATE FEE</u>
TOTAL CLAIMS	<u>28</u> -	<u>28</u>	<u>00</u>	X11 = \$	OR	X22 = \$
INDEP CLAIMS	<u>03</u> -	<u>03</u>	<u>00</u>	X39 = \$	OR	X78 = \$
[ ] Multiple Dependent Claim Present and Fee Not Previously Paid				\$125		\$250
			<b>TOTAL</b>	\$_____		\$_____

- Applicant(s) hereby petition for a \_\_\_\_\_ month(s) extension of time to respond to the aforementioned Office Action .
- Applicant(s) believe that no (additional) Extension of Time is required; however, if it is determined that such an extension is required, Applicant(s) hereby petition that such an extension be granted and authorize the Commissioner to charge the required fees for an Extension of Time under 37 CFR 1.136 to Deposit Account No. 08-2120.
- Enclosed is our Check No. \_\_\_\_\_ in the amount of \$ \_\_\_\_\_ to cover the additional claim fee and/or extension of time fees.
- If the required fees are missing or any additional fees are required to facilitate filing the enclosed response, please charge such fees or credit any overpayment to Deposit Account No. 08-2120 (Order No. APL1P053A). A copy of this sheet is enclosed.

Respectfully submitted,  
 HICKMAN BEYER & WEAVER

David P. Lentini  
 Reg. No. 33,944

P.O. Box 61059  
 Palo Alto, CA 94306  
 (415) 493-6400