



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.
07/985,588	12/03/92	BEERNINK	E APL1P053

EXAMINER  
BANERJEE, A

26M2

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

ART UNIT	PAPER NUMBER
2609	4

DATE MAILED: 05/28/93

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.

A shortened statutory period for response to this action is set to expire 3 month(s), 0 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 re Patent Drawing, PTO-948.                   |
| 3. <input type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449.                 | 4. <input type="checkbox"/> Notice of Informal Patent Application, Form PTO-152. |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474.     | 6. <input type="checkbox"/> _____  |

Part II SUMMARY OF ACTION

1.  Claims 1-18 are pending in the application.

Of the above, claims \_\_\_\_\_ are withdrawn from consideration.

2.  Claims \_\_\_\_\_ have been cancelled.

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

4.  Claims 1-18 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 re Patent Drawing, 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 on \_\_\_\_\_, has been  approved.  disapproved (see explanation).

12.  Acknowledgment is made of the claim for priority under 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

Serial No. 07/985,588  
Art Unit 2609

-2-

1. Claim 18 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear as to the applicant's intent in the claim.

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 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.

3. Claims 1 through 18 are rejected under 35 U.S.C. § 103 as being unpatentable over Liljenwall in view of Mizzi.

Addressing claims 1 through 7, Liljenwall teaches a gesture sensitive button of Liljenwall consists of: digital computation means, a screen means coupled to said digital computation means, pointer means for pointing to locations on said screen means

(namely, a finger; Col 1, lns 49-58), button means (the array of buttons A, B, C...) displayed on said screen means (Fig 1) where the said button means (the array of buttons) is responsive to at least two different button gestures (where the gestures have meaning to the button means) made by said pointer on said screen means (namely, the transparent button array and display module), and gesture recognition means for detecting gestures made on said screen means by said pointer means and operative to initiate a process in said digital computation means upon the detection said at least two different button gestures, where said initiated process is determined by which button gesture is detected (namely, the decoding scheme in Figure 4).

It is probable the applicant intended for the "button" to be a specific portion of the screen which is sensitive to gestures of various types. It would have been obvious to modify Liljenwall by substitution a soft button means (a specific portion of the touch-sensitive {claim 4} screen), such as those taught by Mizzi (Mizzi Col 1, lns 49-51) as opposed to a mechanical button means because using soft buttons is known to maximize the display surface (Mizzi Col 1, lns 36-41).

The type of stylus used by Liljenwall is a finger (Col 1, lns 1-38), but use of another type of stylus would be an obvious alteration (claim 3). Furthermore, the system can be thought of as a pen-based computer system (claim 2) in that it uses a stylus to enter input.

As to claims 5 and 6, the particular choice of gestures ("tap", "X" and "Check") are obvious choices of design in that they are common gestures and therefore not patentable.

It is obvious to have buttons change their appearance (claim 7) when activated. In many cases, the buttons would appear to be depressed, whereas in some cases, the button is highlighted. In any event, altering the image of buttons upon detection of a button is well known in the art.

Arguments for the rejections of claims 8 through 18 are like those presented against claims 1 through 7.

It is would be obvious to compare gestures with a set of recognizable gestures (Claims 16 and 17) and initiate the appropriate process. Similar methods include measurement of Hamming distance of images (or gestures), et cetera. It is the probable intent of the applicant (Claim 18) to indicate that the initiating process could start a number of tasks. It would be obvious to initiate any number of tasks because the button (of Liljenwall) is sensitive to a plurality of gestures.

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

Sklarew (US Patent #4,972,496) shows a handwritten keyboardless entry computer system (word processor, etc).

Cullum (UK Patent #2,193,023 A) reveals a pen-operated symbol displaying apparatus.

Serial No. 07/985,588  
Art Unit 2609

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5. Any inquiry concerning this communication should be directed to Aaron Banerjee at telephone number (703) 305-4847.



ALVIN E. OBERLEY  
SUPERVISORY PATENT EXAMINER  
ART UNIT 260

FORM PTO-892 (REV. 2-92)	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	SERIAL NO. <b>08/278,460</b>	GROUP ART UNIT <b>2609</b>	ATTACHMENT TO PAPER NUMBER <b>3</b>
NOTICE OF REFERENCES CITED		APPLICANT(S) <b>BEERNINK, ET AL</b>		

U.S. PATENT DOCUMENTS							
*	DOCUMENT NO.	DATE	NAME	CLASS	SUB-CLASS	FILING DATE IF APPROPRIATE	
A	5260697	11/93	BARRETT	345	173	B Nov 90	
B							
C							
D							
E							
F							
G							
H							
I							
J							
K							

FOREIGN PATENT DOCUMENTS									
*	DOCUMENT NO.	DATE	COUNTRY	NAME	CLASS	SUB-CLASS	PERTINENT SHTS. DWG. PP. SPEC.		
L									
M									
N									
O									
P									
Q									

OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)	
R	
S	
T	
U	

EXAMINER <b>A. BRUGESSE</b>	DATE <b>1 Jul 94</b>
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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).)



UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office

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Washington, D.C. 20231

SERIAL NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO.
07/985,588	12/03/92	BEERNINK	E APL1F053

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

26M2/1115

EXAMINER BANERJEE, A	
A. BANERJEE	
ART UNIT	PAPER NUMBER
2609	2609
DATE MAILED:	

EXAMINER INTERVIEW SUMMARY RECORD

11/15/93

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

- (1) PAUL HICKMAN (3) AARON BANERJEE  
 (2) JAMES REGAL (4) \_\_\_\_\_

Date of interview 13 July 1993

Type:  Telephonic  Personal (copy is given to  applicant  applicant's representative).

Exhibit shown or demonstration conducted:  Yes  No. If yes, brief description: DEMONSTRATED AN  
"APPLE NEWTON" HANDHELD COMPUTER

Agreement  was reached with respect to some or all of the claims in question.  was not reached.

Claims discussed: NONE

Identification of prior art discussed: NONE

Description of the general nature of what was agreed to if an agreement was reached, or any other comments: \_\_\_\_\_

THIS WAS AN INFORMAL MEETING WHERE THE APPLICANT'S ATTORNEYS  
DEMONSTRATED A HANDHELD COMPUTER WHICH RELATES TO THE  
APPLICANT'S INVENTION. THE DEVICE UTILIZED CHARACTER/GESTURE  
RECOGNITION MEANS SIMILAR TO THE INVENTION, BUT WAS NOT A PROTOTYPE.

(A fuller description, if necessary, and a copy of the amendments, if available, which the examiner agreed would render the claims allowable must be attached. Also, where no copy of the amendments which would render the claims allowable is available, a summary thereof must be attached.)

Unless the paragraphs below have been checked to indicate to the contrary, A FORMAL WRITTEN RESPONSE TO THE LAST OFFICE ACTION IS NOT WAIVED AND MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW (e.g., items 1-7 on the reverse side of this form). If a response to the last Office action has already been filed, then applicant is given one month from this interview date to provide a statement of the substance of the interview.

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

Since the examiner's interview summary above (including any attachments) reflects a complete response to each of the objections, rejections and requirements that may be present in the last Office action, and since the claims are now allowable, this completed form is considered to fulfill the response requirements of the last Office action.

Aaron Banerjee  
Examiner's Signature



6/A  
9-10-93  
NP

PATENT

In the United States Patent and Trademark Office

Applicant: Beernink, et al  
Applicant's Ref: P1017 (APL1P053) Examiner: Banerjee, A.  
Serial No: 07/985,588 ✓ Group Art Unit: 2609  
Filed: 12/03/92 ✓  
Title: Gesture Sensitive Buttons for Graphical User Interfaces

AMENDMENT A

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

Dear Sir:

In response to the Office Action dated 5/28/93, the period of response to which extends through August 30, 1993, please enter the following amendments and remarks:

In the Specification:

- On page 3, line 26, delete "a".
- On page 5, line 28, change "replace" to --replaced--.
- On page 7, line 30, replace " \_\_\_\_\_ " with --07/976,970--.
- On page 7, line 35, change "button" to --buttons--.
- On page 7, line 35, delete "is".
- On page 8, line 15, change "remove" to --removes--.
- On page 8, line 16, change "turn" to --turns--.
- On page 8, line 35, delete the second period after "66".
- On page 9, line 11, after Capps, delete "et al.,".
- On page 9, line 11, replace " \_\_\_\_\_ " with --07/888,741--.

A



On page 9, line 12, replace " " with "--Method for Selecting Objects on a Computer Display--."

On page 9, line 28, after "screen", insert "--is--".

On page 9, line 28, after "returned", insert "--is--".

On page 10, line 2, replace "know" with "--known--".

On page 10, line 3, underline "Object Oriented Programming for the Macintosh".

In the Claims:

\*1. (amended) A gesture sensitive button for a graphical user interface comprising:

digital computation means;

display screen means coupled to said digital computation means;

pointer means for pointing to locations on said display screen means;

button [means] image displayed on said display screen means, said button [means] image being substantially immediately responsive to at least two different button gestures made by said pointer means on said display screen means;

gesture recognition means for detecting gestures made on said display screen means by said pointer means and operative to initiate a process in said digital computation means upon the detection of said at least two different button gestures, where said initiated process is determined by [the] which button gesture is detected.

\*2. (amended) A gesture sensitive button as recited in claim 1 wherein said digital computation means, said display screen means, and said pointer means are part of a pen-based computer system.

\*3. (amended) A gesture sensitive button as recited in claim 2 wherein said display screen means comprises a touch-sensitive screen and said pointer means comprises a stylus.

\*4. (amended) A gesture sensitive button as recited in claim 3 wherein a button gesture is a gesture made by said stylus on said touch-sensitive screen which both contacts said button [means] image and which has meaning to said button [means] image.

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*Sub CA* > \*5. (amended) A gesture sensitive button as recited in claim 4 wherein one of said button gestures is a tap made by the tip of said stylus on said screen over said button [means] image.

\*6. (amended) A gesture sensitive button as recited in claim 5 wherein another of said button gestures is selected from the group of check-marks and X-marks and is made by said stylus on said display screen means over said button [means] image.

\*7. (amended) A gesture sensitive button as recited in claim 6 wherein said button [means] image displays an altered image upon the detection of a button gesture.

\*8. (amended) A method for providing a gesture sensitive button for a graphical user interface comprising the steps of:

*02 com +*  
providing a button [means] image on a computer display screen;

detecting a gesture made upon [a] said computer display screen by a pointer means;

determining whether said gesture is associated with said button [means] image; and

initiating one of at least two processes if said gesture is associated with said button [means] image, where said initiated process is determined by the nature of said button image and what gesture is detected.

\*9. (amended) A method for providing a gesture sensitive button as recited in claim 8 wherein said button [means] image comprises an image of a button displayed upon said computer display screen.

\*10. (amended) A method for providing a gesture sensitive button as recited in claim 8 further comprising the step of altering the image of said button image after said determining step determines that said gesture is associated with said button [means] image.

\*11. (amended) A method for providing a gesture sensitive button as recited in claim 8 wherein said computer display screen is a touch sensitive screen and said pointer means is a stylus.

\*12. (amended) A method for providing a gesture sensitive button as recited in claim 8 wherein said determining step includes the steps of determining whether said gesture contacts said button [means] image and determining whether said gesture is a recognizable gesture in the context of said button [means] image.

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\*13. (amended) A method for providing a gesture sensitive button as recited in claim 12 wherein a tap gesture is a recognizable gesture for said button [means] image.

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D4  
as  
concl'd

\*14. (amended) A method for providing a gesture sensitive button as recited in claim 13 wherein a check-mark gesture is a recognizable gesture for said button [means] image.

\*15. (amended) A method for providing a gesture sensitive button as recited in claim 13 wherein an X-mark gesture is a recognizable gesture for said button [means] image.

\*16. (amended) A method for providing a gesture sensitive button as recited in claim 8 wherein said determining step includes the step of comparing said gesture with a set of recognizable gestures for said button [means] image.

[

17. A method for providing a gesture sensitive button as recited in claim 16 wherein said initiating step includes the step of initiating at least one process step when said gesture is one of said set of recognizable gestures.

18. A method for providing a gesture sensitive button as recited in claim 17 wherein said initiating step initiates a plurality of process steps as determined by said gesture.

## REMARKS

Minor corrections to the specification have been made by this amendment. Claims 1-16 have been amended, and claims 1-18 remain pending in the application.

Claim 18 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention. Applicant respectfully traverses. In the specification, page 11, lines 3-17, a plurality of process steps are described which are initiated depending which gesture is detected. It is believed that the language of the claim clearly follows the language of the specification. It is therefore respectfully submitted that claim 18 does particularly point out and distinctly claim the subject matter regarded as the invention as set forth in the specification. Applicant respectfully requests the rejection under 35 U.S.C. § 112 be withdrawn.

The Examiner rejected claims 1-18 under 35 U.S.C. § 103 as being unpatentable over Liljenwall in view of Mizzi. Applicant respectfully disagrees. In claim 1, which has been amended to more clearly claim Applicant's invention, the button image is displayed on the display screen means and is substantially immediately responsive to at least two different button gestures made by the pointer means on the display screen means. The Examiner argues that this arrangement is obvious over the array of physical buttons of Liljenwall in view of the soft buttons of Mizzi, but it clearly is not. Applicant's gesture sensitive "soft buttons" have more functionality than Liljenwall and Mizzi combined in that, unlike Liljenwall, they indicate what types of inputs that they will accept and what results of such inputs would be and, unlike Mizzi, they accept a multiplicity of inputs to accomplish a multiplicity of tasks. The combination of Liljenwall and Mizzi would merely be a number of unlabeled, undifferentiated soft buttons, each of which can accept an "on-off" type input from a pointer, rather than a gesture input as claimed by Applicant.

The Examiner further argues that the disclosure of Liljenwall anticipates the responsiveness of Applicant's button means to more than one gesture. Applicant respectfully traverses. Liljenwall teaches a modal system where the device must be switched from one mode to another to accept different gesture types, unlike Applicants non-modal system where the button images are

substantially immediately responsive to a multiplicity of gestures. Language has been added to the claims to indicate this non-modal behavior ("substantially immediately responsive") of Applicant's invention. Further, in view of this distinction, it would not have been obvious to create Applicant's invention by Liljenwall in combination with Mizzi, because even the inclusion of the soft buttons of Mizzi in Liljenwall would not produce Applicant's non-modal functionality. Applicant respectfully submits that claim 1 is not disclosed nor reasonably suggested by the art of record and requests that rejection under 35 U.S.C. § 103 be withdrawn.

Claims 2-7 are dependent either directly or indirectly on claim 1 and are therefore respectfully submitted as allowable for at least the same reasons as set forth above with respect to claim 1. Each of these claims add element to a combination which is not shown, described, or suggested in the cited art. In particular, the prior art does not disclose check-mark and X-mark gestures to input buttons of any kind (claim 6), nor does the prior art show the alteration of a button image based upon the type of gesture made over the button image (claim 7). Applicant therefore respectfully request that the rejection of claims 2-7 also be withdrawn.

Claim 8 has been amended to emphasize that the process initialization step is dependent both upon the type of gesture detected and the nature of the button image itself. Similar to those reasons as set forth with respect to claim 1, claim 8 is not disclosed nor reasonably suggested by the art of record. In Liljenwall, there is no button image and, therefore, there is no context to the inputs to the device. A user inputs data and commands with physical buttons, and results are displayed on a display. Different types of gestures are input in Liljenwall only by switching between modes rather than by recognizing a gesture in the context of an input button image. Again, Applicant has a non-modal approach wherein one of a plurality of processes are initiated depending upon the detected gesture, unlike Liljenwall where only one process is initiated upon an input for a particular mode of operation. In view of these differences, Applicant respectfully requests that the rejection of claim 8 be withdrawn.

Claims 9-18 are dependent either directly or indirectly on claim 8 and are therefore respectfully submitted as allowable for at least the same reasons as set forth above with respect to claim 8. Each of these claims add a step to a combination of steps which were not shown, described, or suggested in the cited art. For example, claim 12 recites a step of determining

whether the gesture is recognizable in the context of the button image, where such a step is not shown in the cited art. Applicant therefore respectfully requests that the rejections of claims 9-18 be withdrawn.

The prior art made of record but not relied upon by the Examiner has been considered, and Applicant believes that the pending claims are patentable thereover.

Applicant believes that all pending claims are allowable and respectfully requests a Notice of Allowance for this application from the Examiner. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at the telephone number set out below.

Palo Alto, California  
415-328-6500

Respectfully submitted,



Paul L. Hickman  
Reg. 28,516



Patent  
Docket No.: P1017

### Transmittal of a Response to an Office Action

I hereby certify that this transmittal of the below described document is being deposited with the United States Postal Service in an envelope bearing First Class Postage and addressed to the Commissioner of Patents and Trademarks, Washington, D.C., 20231, on the below date of deposit.				
Date of Deposit:	8/30/93	Name of Person Making the Deposit:	Paul L. Hickman	Signature of the Person Making the Deposit:

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

Inventor(s): Beernink et al.

Serial No.: 07/985,588

Group Art Unit: 2609

Filed: 12/03/92

Examiner: A. Banerjee

Title: Gesture Sensitive Buttons for Graphical User Interfaces

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

Sir:

Transmittal of a Response to an Office Action (Amendment)  
(Under 37 CFR §1.115)

- Transmitted herewith is a response to an office action for the above identified patent application (7 pages).  
 Transmitted herewith are \_\_\_\_\_ sheets of substitute formal drawings.  
 Other:

Fee Calculation (for other than a small entity)					
Fee Items	Claims Remaining After Amendment	Highest Number of Claims Previously Paid For	Present Extra Claims	Fee Rate	Total
Total Claims		- # =		x \$20.00	
Independent Claims		- # =		x \$72.00	
Multiple Dependent Claim Fee (one or more, first added by this amendment)				\$220.00	
<b>Total Fees</b>					

- No additional fee is required.  
 A check in the amount of \$\_\_\_\_\_ is enclosed.  
 At any time during the pendency of this application, please charge any fees required or credit any overpayments to Deposit Account 08-2120. A duplicate copy of this transmittal is enclosed.  
 Charge the Total Fees due to Deposit Account 08-2120. At any time during the pendency of this application, please charge any fees required or credit any overpayments to Deposit Account 08-2120. A duplicate copy of this transmittal is enclosed.

Paul L. Hickman  
Reg. No. 28,516

Date: 8/30/93  
Hickman & Beyer  
490 California Avenue, Suite 202  
Palo Alto, California 94306  
(415) 328-6500