



UNITED STATES DEPARTMENT OF COMMERCE  
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 P10176053A  
EXAMINER

BANERJEE, A

ART UNIT PAPER NUMBER

26M2/0707

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

2609

DATE MAILED:

07/07/94

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 THREE month(s), ZERO 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 checked="" 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

1.  Claims 1-3, 5-11, 13-23 are pending in the application.

Of the above, claims \_\_\_\_\_ are withdrawn from consideration.

2.  Claims 4, 12 have been cancelled.

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

4.  Claims 1-3, 5-11, 13-23 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

Serial Number: 07/985,588

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Art Unit: 2609

1. This application is a continuation of application SN # 07/985,588.

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 1-3, 5-11, 13-18 are rejected under 35 U.S.C. § 103 as being unpatentable over Liljenwall in view of Mizzi.

Addressing claim 1, Liljenwall teaches a gesture sensitive button that consists of: digital processor (fig 8, logic gates), a screen means coupled to said digital processor, pointer means for pointing to locations on said screen means (namely, a finger; col 1, lines 49-58), a button (the array of button segments A, B, C... which form a single button as if the segments were part of a low resolution touch screen--see arguments section) that is

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responsive to at least two different button gestures. Liljenwall contains gesture recognition means (logic for decoding buttons, q.v. Liljenwall fig 3 or 4) which is operative to initiate a process within the device upon the detection of said at least two different button gestures. The process is determined by the gesture. See Liljenwall fig 8, "Enter" and "Clear Last Digit" functions where the direction of the stroke determines whether or not to "Enter" or "Clear Last Digit". Also referring to Liljenwall figure 8, the gestures are generally recognizable (numbers, letters, etc).

Regarding the newly added limitations of the digital processor being responsive without any intermediate input, the device of Liljenwall is intended to allow a user to "...enter information into information processing machines simply by the act of making these finger strokes across the face." (col 1, lines 62-63). Liljenwall further specifies that "...[t]he user brings a finger into contact with the face 10, traces a path over the face while maintaining contact, then removes the finger from contact." (col 3, lines 38-41). There are no intervening gestures or the like necessary to enter the data.

Although Liljenwall does show transparent button means superimposed on a display, he does not explicitly teach that the buttons are images. Mizzi teaches the use of soft buttons, or a specific, labeled (Mizzi col 5, lines 34-36) area of the screen

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whose position and outline (i.e. nature) are entirely programmed by the user (col 1, lines 61-68) and thus constitute the button image as intended by the applicant. Conventionally, buttons may be of many shapes and sizes; certain buttons (icons) are designed to indicate to the user what the function of the button is.

It would have been obvious to modify Liljenwall by substitution of a soft button (image) such as that taught by Mizzi because using soft buttons in order to maximize the display surface (Mizzi col 1, lines 36-41), or in other words, to use a size-limited display most effeciently.

Addressing claims 2, 3, 9, 11, and 16, the prior art shows the image of a button (the "key", Mizzi col 5, line 31), a touch sensitive screen where the pointer may be a stylus (Mizzi col 1, lines 43-51 sic passim, col 2, lines 6-8). Referring to claim 12, the purpose of a soft button is to partition an area of a screen for a particular function or purpose. It would be obvious to detect the gesture within the button (as opposed to somewhere else on the screen) because that is the purpose of partitioning an area of the screen to form a button. Referring to claim 16, Liljenwall (col 4, lines 34-42) teaches looking up in memory (using a LUT) to recognize gestures) and thus determine which recognizable gesture (if any -- note in fig 8 that not all possible gestures are allowable in all modes of operation) has been made.

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Addressing claims 5, 6, 13, 14, and 15, the choice of a tap, "X" or a "✓" is seen as an obvious choice of design. Please note the discussion of the "X" and "✓" in the arguments section. Further note that one of the allowable gestures of Liljenwall is a "tap", or single press (fig 8, "+" sign).

Referring to claim 8, the button of Liljenwall is present before the gesture is detected. The interpretation (or "determining...") of the gesture occurs after the stylus (finger) is lifted. The "nature of the button" could mean how it is labeled (such as "OK" or "CANCEL") which is widely in use. Mizzi teaches that the position and outline (i.e. nature) may be entirely programmed by the user (Mizzi col 1, lines 61-68). It would be obvious that the user would program the outline of the button (or place it in a meaningful position) in order to make the system more user-friendly. Examples of buttons that reveal their nature are arrow buttons on scroll bars (in some Windows-based word processors and the like) and icons.

Addressing the newly added limitations to claim 8, from the suggestions of Mizzi that there may be buttons of various shapes and sizes (and functions) on the screen. In a regular "point and click" or "point and tap" button, to determine whether or not a button is selected, a determination is made to see whether the selection is done within the bounds of the button. Liljenwall as modified would be no exception. From the suggestions of

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Liljenwall as modified, the button would not only be able to detect a "click" or a "tap", but a gesture as well.

Addressing **claims 7 and 10**, it was noted in the initial rejection that altering an image of a soft button (to make it appear "pressed", to highlight it, to darken it, et cetera) are techniques commonly used (and therefore obvious). They are used to tell the user the button has been pressed.

Referring to **claim 17**, Liljenwall shows at least one gesture (such as the change mode gesture of fig 4) where a process is initiated (changing mode) when the gesture is recognized (or substantially immediately afterwards). As to **claim 18**, Mizzi teaches that the process (operation) may be a plurality of operations as mentioned above (Mizzi col 5, lines 34-36).

4. Claims 19-23 are rejected under 35 U.S.C. § 103 as being unpatentable over Barrett (5,260,697) in view of Liljenwall and Mizzi.

With respect to claim 19, please note the preceding discussions regarding displaying at least one button, the X and check mark gestures and executing a command based on the gesture.

Claim 19 further defines the invention by specifically reciting that the button has a button bounding box, the gesture has a gesture bounding box, and a "hit" is determined if the gesture box substantially overlaps the button box. Regarding the

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button box, conventionally, the boundaries of the button (or an area around the button constitute a button box--to determine whether or not a click or a gesture is within the button).

Barrett teaches that within gesture recognition techniques used in buttons displayed on a screen, a "direct hit" is not the only means of detecting whether or not a gesture falls within a button. In particular, Barret suggests using the average value of a stroke as an indicator (col 22, stroke parsing algorithm B). Given the suggestion of detecting for a substantial overlap (only the average value must overlap), it would have been obvious to use another obvious functionally equivalent, such as the use of overlapping areas (i.e. the spatial correlation) in order to determine whether or not the gesture "hit" the box because both methods would suffice and without using some sort of "near hit" algorithm, it is more difficult for the user to make the gestures.

In reference to claim 20, given the suggestions of Barrett that there may be a "near miss", the particular definition of a "near miss" (i.e. 40% overlap, 45%, etc) is seen as a choice of design provided that it was a reasonable "near miss".

Referring to claims 21-23, please note the discussions of claims 13-15 regarding the X, check, and tap marks, and further the discussion of claim 7 regarding the altered image. The particular manner in which the button is altered, or the

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particular function of the button is seen as a choice of design because there a multitude of possible functions, dependent upon the nature of the button.

Referring specifically to claim 22, the introduction of a menu on receipt of a particular gesture to a button is well known. One example is within MicroSoft Windows (official notice taken), where in order to close a window, one "double clicks" the "go away" button in the upper left corner (one gesture), but if the user "single clicks" (another gesture), a menu (equivalent to a choice palette) "pops" up. Given the suggestions of the prior art of gesture sensitive buttons, and that each button may activate a different function (Liljenwall), it would have been obvious to use the gestures for various functions and special effects in order to make the device more user friendly. A similar argument holds for theX mark of claim 23.

5. The applicant's arguments have been fully considered, but they are not deemed to be persuasive.

Regarding claim 1, the applicant argues that the segments of Liljenwall are not the equivalent of a button, but rather the equivalent of a touch screen. The examiner respectfully submits that one of ordinary skill in the art would not have placed so much limitation on Liljenwall. The embodiment of Liljenwall is on the surface of a wristwatch, where the total area of the



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screen is very small. In a larger embodiment, such as a pen-based computer system suggested by Mizzi, would one of ordinary skill have required the user to make his gesture occupy the entire screen? The ordinary artisan would have utilized a portion of the screen (i.e. a button) for the gesture recognition as suggested by Liljenwall.

Regarding the functions of the gestures being context sensitive, in a multi-button environment, each button (or icon) is usually associated with a different function (or application). If each button was to have more than one function associated with it, clearly, a different gesture would be associated with each function. From the suggestions of Mizzi that there may be a number of buttons on the screen at a given time, each button (or icon) may have a number of different functions. Consider the example of a gesture sensitive button on the same screen as a conventional "point-and-tap" button. One of ordinary skill in the art, to avoid confusion, would not make the conventional button sensitive to the gestures.

The applicant has argued (but not claimed) that the buttons have more functionality than those of the prior art, that they indicate the inputs they accept and the function(s) they perform, and that the combination of Liljenwall and Mizzi would merely produce a number of unlabeled, undifferentiated soft buttons. In addition, the applicant points out that Liljenwall teaches a

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modal system. It was not claimed that the applicant's invention was non-modal.

Admittedly, Liljenwall does teach a modal system, however, within each mode, a number of gestures (numbers, etc) may be recognized. For example, (fig 4, q.v. col 4, lines 5-20) show a gesture that (substantially immediately) executes a proces (or changes the mode) to remap the definitions of the buttons.

One example given by Liljenwall that clearly shows his button means (which could be a button image in view of Mizzi) is gesture sensitive follows. Note figure 8 of Liljenwall and in particular, note the strokes for the "Enter" and "Clear Last Digit" functions in the calculator mode. Note that these strokes use the same segments, but in reverse order. They have two different meanings to the device of Liljenwall.

Claims 2-6 depend either directly or indirectly from claim 1, and are still rendered obvious. The "X" and "✓" symbols were deemed an obvious choice of design by the examiner in the first office action. The examiner sustains his position on this matter because there are a pseudo-infinite number of "gestures" that could be used to operate a gesture sensitive button, limited only by the resolution, stylus (or finger) contact width, and dexterity of the user. For instance, if "X" and "✓" (which incidentally are commonly used as gestures to indicate to a schoolboy whether or not he has answered a problem or question

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correctly or not) could distinguish an invention as patentable, why not "O" and "ç"? Both are easy to draw. The "X" and "✓" are thus deemed obvious choices of design.

The remainder of the applicant's arguments draw basis from topics discussed previously, or are addressed in the appropriate rejections section above.

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



ALVIN E. OBERLEY  
SUPERVISORY PATENT EXAMINER  
ART UNIT 269

FORM PTO-892 (REV. 2-92)	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	SERIAL NO. <b>08/228,460</b>	GROUP/ART UNIT <b>2609</b>	ATTACHMENT TO PAPER NUMBER <b>13</b>
NOTICE OF REFERENCES CITED		APPLICANT(S) <b>Ernest H. Beerrink</b>		

U.S. PATENT DOCUMENTS													
*	A	DOCUMENT NO.					DATE	NAME	CLASS	SUB-CLASS	FILING DATE IF APPROPRIATE		
✓	A	5	1	9	4	8	5	2	3/1993	More et al	345	173	12/1986.
✓	B	5	3	4	7	2	9	5	9/1994	Agulnick et al	345	156	10/1990.
✓	C	5	3	9	8	0	4	5	3/1995	Sach et al.	345	172	8/1990.
✓	D	5	3	9	8	3	1	0	3/1995	Tchar et al	395	144	
	E												
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FOREIGN PATENT DOCUMENTS													
*	L	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>LAO, LUN-TZ</b>	DATE <b>11/17/95</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).)

GROUP

APPLICATION NUMBER

985588

## NOTICE OF DRAFTSPERSON'S PATENT DRAWING REVIEW

THE PTO DRAFTSMEN REVIEW ALL ORIGINALLY FILED DRAWINGS REGARDLESS OF WHETHER THEY WERE DESIGNATED AS INFORMAL OR FORMAL. ADDITIONALLY, THE PATENT EXAMINER WILL ALSO REVIEW THE DRAWINGS FOR COMPLIANCE WITH THE REGULATIONS.

The drawings filed

12/3/92

A.  are approved by the draftsman.

B.  are objected to by the draftsman under 37 CFR 1.84 for the reason(s) checked below. The examiner will require submission of new, corrected drawings at the appropriate time. Corrected drawings must be submitted according to the instructions listed on the back of this Notice.

1. Paper and ink. 37 CFR 1.84(a)

Sheet(s) \_\_\_\_\_ Poor.

2. Size of Sheet and Margins. 37 CFR 1.84(b)

Acceptable Paper Sizes and Margins

Margin	Paper Size		
	8 1/2 by 14 inches	8 1/2 by 13 inches	DIN size A4 21 by 29.7 cm.
Top	2 inches	1 inch	2.5 cm.
Left	1/4 inch	1/4 inch	2.5 cm.
Right	1/4 inch	1/4 inch	1.5 cm.
Bottom	1/4 inch	1/4 inch	1.0 cm.

Proper Size Paper Required.  
All Sheets Must be Same Size.  
Sheet(s) \_\_\_\_\_

Proper Margins Required.  
Sheet(s) \_\_\_\_\_

TOP       RIGHT  
 LEFT       BOTTOM

3. Character of Lines. 37 CFR 1.84(c)

Lines Pale or Rough and Blurred.  
Fig(s) \_\_\_\_\_

Solid Black Shading Not Allowed.  
Fig(s) \_\_\_\_\_

4.  Photographs Not Approved.  
\_\_\_\_\_

Comments;

5. Hatching and Shading. 37 CFR 1.84(d)

Shade Lines are Required.  
Fig(s) \_\_\_\_\_

Criss-Cross Hatching Not Allowed.  
Fig(s) \_\_\_\_\_

Double Line Hatching Not Allowed.  
Fig(s) \_\_\_\_\_

Parts in Section Must be Hatched.  
Fig(s) \_\_\_\_\_

6. Reference Characters. 37 CFR 1.84(f)

Reference Characters Poor or Incorrectly Sized.  
Fig(s) \_\_\_\_\_

Reference Characters Placed Incorrectly.  
Fig(s) \_\_\_\_\_

7. Views. 37 CFR 1.84(i) & (j)

Figures Must be Numbered Properly.

Figures Must Not be Connected.  
Fig(s) \_\_\_\_\_

8.  Identification of Drawings. 37 CFR 1.84(1)  
Extraneous Matter or Copy Machine  
Marks Not Allowed. Fig(s) \_\_\_\_\_

9.  Changes Not Completed from Prior  
PTO-948 dated \_\_\_\_\_

Telephone inquiries concerning this review should be directed to the Chief Draftsman at telephone number (703) 305-8404.

AD  
Reviewing Draftsman

1/4/93  
Date

Note: Any objection to the drawings made by the examiner will be communicated separately in an office action.

# 110j 115 2609



*Banerjee 11/1/94*

PATENT

In the United States Patent and Trademark Office

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

Examiner: Banerjee, A.

Group Art Unit: 2609

Attorney Docket: P1017C/P053A

#14/Req ext  
D. Gordon  
11-7-94

CERTIFICATE OF MAILING

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 October 21, 1994

Signed: *Lara M. Nelson*  
Lara M. Nelson

RECEIVED  
GROUP 260  
NOV-2 AM 11:48

Amendment B

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

Dear Sir:

In response to the Office Action of 7/7/94, please amend the above identified patent application as follows. Applicant hereby requests a one month extension of time to file this response.

090 BA 11/03/94 08228460

1 115 110.00 CR

In the Claims:

Please cancel claims 21-23.

*D1 Sub  
cont.*

(twice amended) A gesture sensitive button for a graphical user interface comprising:



D  
Cont

a digital processor;

a display screen coupled to said digital processor;

a pointer for pointing to locations on said display screen;

a button image displayed on said display screen, said digital processor being responsive without any intermediate input to at least two different button gestures made by said pointer on said display screen at any location over said button image; and

gesture recognition means for detecting gestures made on said display screen by said pointer and operative to initiate a process in said digital processor that is determined by a recognizable button gesture made with said pointer on said display screen which both selects said button image and which has meaning to said digital processor based upon a context associated with said button image wherein the gesture recognition means is arranged such that the function associated with each of said button gestures will be initiated and executed in an identical manner regardless of the location over the button image that the gesture was made.

4.5. (amended) A gesture sensitive button as recited in claim 3 wherein a first one of said button gestures is a tap made by said stylus on said screen over any segment of said button image.

02  
Cont  
Sub  
G2

5.6. (amended) A gesture sensitive button as recited in claim 5 wherein another of said button gestures is selected from ~~the~~ a group consisting of a check-mark[s] and an X-mark[s] and that is made by said stylus on said display screen means over said button image.

Sub  
G2

7. (amended) A gesture sensitive button as recited in claim 5 wherein the appearance of said button image [displays an] is altered [image] upon the detection of a button gesture.

8. (twice amended) A method for providing and utilizing a gesture sensitive button for a graphical user interface, wherein the gesture sensitive button has a plurality of distinct gestures associated therewith, each distinct gesture that is associated with the gesture sensitive button having a distinct process associated therewith, the method comprising the steps of:

providing a button image on a computer display screen;

detecting an inputted gesture made upon said computer display screen by a pointer;

determining whether said inputted gesture is associated with said button image by determining whether said gesture contacts said button image and determining whether said gesture is one of the distinct gestures that is associated with the gesture sensitive button [a recognizable gesture in a context of said button image]; and

when the inputted gesture is determined to be associated with the button image, initiating [one of at least two] the process(es if said gesture is) associated with said inputted gesture and the button image[, where said initiated process is determined based on both said context associated with said button image and said gesture].

D3  
Context

13. (amended) A method for providing a gesture sensitive button as recited in claim ~~8~~<sup>7</sup> wherein a tap gesture is a [recognizable] first one of the distinct gestures associated with [for] said button image.

D3

14. (amended) A method for providing a gesture sensitive button as recited in claim ~~13~~<sup>12</sup> wherein a check-mark gesture is a [recognizable] second one of the distinct gestures associated with [for] said button image.

O4

15. (amended) A method for providing a gesture sensitive button as recited in claim ~~14~~<sup>13</sup> wherein an X-mark gesture is a [recognizable] third one of the distinct gestures associated with [for] said button image.

19. (amended) A method for initiating and executing one of a plurality of command sequences from inputs made with a stylus on a gesture sensitive button image displayed on a touch-sensitive display screen of a pen-based computer system, the method comprising the steps of:

displaying a[t least one] button object having a button context on [a] the display screen of [a] the pen-based computer system, said button object having a button bounding box;

entering with a stylus a gesture object having a gesture bounding box, anywhere over said button object [on a display screen, said gesture object comprising one of tap, a check-mark, and an X-mark and having a gesture bounding box];

D  
Context  
sub F3



DS  
Correct

determining whether said gesture bounding box substantially overlaps said button bounding box [and whether said gesture has a gesture meaning within a context associated with said button object on said display screen]; and

executing a command sequence in said pen-based computer system that is [selected by said] associated with the entered gesture [meaning,] without utilizing an intermediate input to the pen-based computer system[.] when the gesture bounding box is determined to substantially overlap the button bounding box;

wherein when a first gesture type is entered, the executed command sequence turns a function associated with said button object on if previously off and off if previously on; and

wherein when a second gesture type is entered, the executed command sequence brings up a choice palette wherein a further selection within the choice palette can be made and a function associated therewith executed.

~~18~~ 20. (amended) A method as recited in claim ~~19~~ <sup>17</sup> wherein said substantial overlap is an overlap of at least approximately 40% [or more] of the gesture bounding box and the button bounding box.

[

Please add the following new claims.

H ~~19~~ 24. (NEW) A method as recited in claim ~~19~~ <sup>17</sup> wherein when a ~~the~~ third gesture type is entered, the executed command sequence activates at least one of the functions associated with said button object.

G ~~20~~ 25. (NEW) A method as recited in claim ~~19~~ <sup>17</sup> wherein the gestures types include a tap, a check-mark, and an X-mark.

## REMARKS

Amendments have been made to claims 1, 5-8, 13-15, 19, 20. Claims 21-23 were canceled. New claims 24 and 25 were added. Claims 1-3, 5-11, and 13-20 remain pending in the application.

Claims 1-3, 5-11, and 13-18 were rejected under 35 U.S.C. § 103 as being unpatentable over Liljenwall et al. in view of Mizzi. Briefly, Liljenwall et al. discloses an information entry system of a wristwatch that allows a user to enter information by using "finger strokes" across the face of the watch device. Mizzi discloses a hand held computer enabling information entry by writing directly on a touch sensitive flat screen.

The Examiner argues that the data entry system of Liljenwall (wristwatch face) constitutes a gesture sensitive button. The button of Liljenwall is subdivided into what the Examiner calls button segments and it is this array of button segments that form a single button. Examiner contends that it is obvious to superimposed this button on a display screen since Mizzi teaches the use of soft buttons or a specific labeled area on the screen. But Liljenwall, as the Examiner admits, does not teach that the buttons are images that can be located on a display screen (last paragraph of page 3 in 7/7/94 office action). Also, the Mizzi button images have single functions associated with them that respond to a single gesture and does not teach or suggest the use of buttons that recognize different gestures that perform different functions. The Liljenwall button does respond to a plurality of gestures but the placement of the gesture is crucial in order to determine what the gesture is. For example, in Fig. 8 of Liljenwall, a six button segment display is shown where the location of a "tap" made on the display determines its meaning. In calculator mode for instance, a "tap" in the upper left segment is interpreted as a plus operation and a "tap" in the lower left segment is a multiply operation. Thus the same gesture made in different button segments does not initiate the execution of the same function.

The button images in the Applicant's invention recognizes different gestures but also that each gesture initiates and executes the same function from anywhere within the button image that it

was made (after determination that the gesture is associated with the button). Thus gesture location within the button is irrelevant to the associated function of the gesture. Claims 1, 8 have been amended to more particularly point out this feature of the Applicant's invention. Specifically, amended claim 1 states that gestures can be made at any location over the button image and that the same function is executed regardless of the location over the button image that the gesture was made. Claim 8 was amended to specifically state that the gesture sensitive button has a plurality of distinct gestures associated with it and when an inputted gesture is detected and determined to be associated with the button image, the process associated with the gesture is initiated. In view of the foregoing, Applicant respectfully submits that the button image taught in the Applicant's invention and the button of Liljenwall are patentably distinct thus it would not be obvious to modify Liljenwall by substitution of a soft button (image) as the Examiner argues.

The dependent claims depend on independent claims 1, 8, and 19 and thus and are respectfully submitted as allowable for at least those reasons stated with respect to independent claims. In view of the foregoing, the Applicant submits that the pending claims are patentable over the cited art and respectfully requests that the rejection under 35 U.S.C. § 103 be withdrawn. 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. The Commissioner is authorized to charge any fees that may be due to our Deposit Account No. 08-2120 (Order No. APL1P053A). A duplicate copy of this sheet is enclosed for this purpose.

Respectfully submitted,  
HICKMAN & BEYER



Steve D Beyer  
Reg. No. 31,234

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**PATENT**

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/P053A

Examiner: A. Banerjee

Group Art Unit: 2609

Date: October 21, 1994

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 October 21, 1994.

Signed: Lara M. Nelson  
Lara M. Nelson

Commissioner of Patents and Trademarks  
Washington, DC 20231

Sir:

Transmitted herewith is an amendment in the above-identified application.

The fee has been calculated as shown below.

Claims Remaining After Amendment	Minus	Highest Previously Paid For	Present Extra	SMALL ENTITY RATE FEE	OR	OTHER THAN A SMALL ENTITY RATE FEE
TOTAL CLAIMS	<u>20</u>	-	<u>21</u>	<u>0</u>	X11 = \$	OR X22 = \$
INDEP CLAIMS	<u>3</u>	-	<u>3</u>	<u>0</u>	X38 = \$	OR X76 = \$
[ ] Multiple Dependent Claim Present and Fee Not Previously Paid				\$120		\$240
				TOTAL	\$_____	\$_____

- Applicant(s) hereby petition for a 1 month(s) extension of time to respond to the aformentioned 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. 12611 in the amount of \$ 110 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,

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