

## EXHIBIT 5.05

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement**

1 Reference is made to the following documents:

- D1: US 2004/100479 A1 (NAKANO MASAO [JP] ET AL) 27 May 2004 (2004-05-27)
- D2: US 2001/045949 A1 (CHITHAMBARAM NEMMARA [US] ET AL) 29 November 2001 (2001-11-29)
- D3: US 2004/021676 A1 (CHEN HUNG-MING [TW] ET AL) 5 February 2004 (2004-02-05)
- D4: US 2003/122787 A1 (ZIMMERMAN JOHN [US] ET AL) 3 July 2003 (2003-07-03)
- D5: US-B1-6 958 749 (MATSUSHITA NOBUYUKI [JP] ET AL) 25 October 2005 (2005-10-25)

2 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of the independent claims is not new in the sense of Article 33(2) PCT.

2.1 Regarding claim 1, D1 discloses a method for operating through an application programming interface in an environment with user interface software interacting with a software application and a user input contacting a view of a display of a device, comprising transferring a deceleration scroll call to set a deceleration factor for a drag user input that invokes a scroll. See D1, §18, §481; the subject matter of claim 1 is therefore not new (Article 33(2) PCT).

A similar argumentation applies to corresponding independent claims 5,9,10,12,14,71 mutatis mutandis, which are therefore also not new (Article 33(2) PCT).

2.2 Regarding claim 15, D2 discloses a method for operating through an application programming interface in an environment with user interface software interacting with a software application and a user input contacting a view of a

display of a device, comprising transferring a scroll hysteresis call to determine whether the user input invokes a scroll. See D2, §84; the subject matter of claim 15 is therefore not new (Article 33(2) PCT).

A similar argumentation applies to corresponding independent claims 19,23,24,26,28,73,77,83, mutatis mutandis, which are therefore also not new (Article 33(2) PCT).

- 2.3 Regarding claim 29, D3 discloses a method for operating through an application programming interface in an environment with user interface software interacting with a software application and a user input contacting a display region of a device, comprising transferring a scroll indicator call to determine whether at least one scroll indicator attaches to a content edge or a display edge of the display region. See D3, §20; the subject matter of claim 29 is therefore not new (Article 33(2) PCT).

A similar argumentation applies to corresponding independent claims 34,39,40,44,48,75, mutatis mutandis, which is therefore also not new (Article 33(2) PCT), which is therefore also not new (Article 33(2) PCT).

- 2.4 Regarding claim 49, D4 discloses a method for operating through an application programming interface in an environment with user interface software interacting with a software application and a user input contacting a view of a display of a device, comprising transferring an inadvertent user input call to determine whether the user input was inadvertent. See D4, §25; the subject matter of claim 49 is therefore not new (Article 33(2) PCT).

A similar argumentation applies to corresponding independent claims 54, 59,60,64,67 mutatis mutandis, which are therefore also not new (Article 33(2) PCT).

- 2.5 With regard to the argumentations of §2.1 - §2.4 supra, the use of an application programming interface is considered to be implicitly disclosed in the closest prior art for each case because it is standard practice to use an API to

interface between and input device and the software which it is manipulating.  
See e.g. D5, §7-§13, §33.

- 3 The dependent claims do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step. See documents D1-D5 and the corresponding passages cited in the search report.

Possible steps after receipt of the international search report (ISR) and written opinion of the International Searching Authority (WO-ISA)

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General information For all international applications filed on or after 01/01/2004 the competent ISA will establish an ISR. It is accompanied by the WO-ISA. Unlike the former written opinion of the IPEA (Rule 66.2 PCT), the WO-ISA is not meant to be responded to, but to be taken into consideration for further procedural steps. This document explains about the possibilities.

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Amending claims under Art. 19 PCT Within 2 months after the date of mailing of the ISR and the WO-ISA the applicant may file amended claims under Art. 19 PCT directly with the International Bureau of WIPO. The PCT reform of 2004 did not change this procedure. For further information please see Rule 46 PCT as well as form PCT/ISA/220 and the corresponding Notes to form PCT/ISA/220.

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Filing a demand for international preliminary examination In principle, the WO-ISA will be considered as the written opinion of the IPEA. This should, in many cases, make it unnecessary to file a demand for international preliminary examination. If the applicant nevertheless wishes to file a demand this must be done before expiry of 3 months after the date of mailing of the ISR/ WO-ISA or 22 months after priority date, whichever expires later (Rule 54bis PCT). Amendments under Art. 34 PCT can be filed with the IPEA as before, normally at the same time as filing the demand (Rule 66.1 (b) PCT).

If a demand for international preliminary examination is filed and no comments/amendments have been received the WO-ISA will be transformed by the IPEA into an IPRP (International Preliminary Report on Patentability) which would merely reflect the content of the WO-ISA. The demand can still be withdrawn (Art. 37 PCT).

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Filing informal comments After receipt of the ISR/WO-ISA the applicant may file informal comments on the WO-ISA directly with the International Bureau of WIPO. These will be communicated to the designated Offices together with the IPRP (International Preliminary Report on Patentability) at 30 months from the priority date. Please also refer to the next box.

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End of the international phase At the end of the international phase the International Bureau of WIPO will transform the WO-ISA or, if a demand was filed, the written opinion of the IPEA into the IPRP, which will then be transmitted together with possible informal comments to the designated Offices. The IPRP replaces the former IPER (international preliminary examination report).

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Relevant PCT Rules and more information Rule 43 PCT, Rule 43bis PCT, Rule 44 PCT, Rule 44bis PCT, PCT Newsletter 12/2003, OJ 11/2003, OJ 12/2003

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Declaration under Rule 4.17:

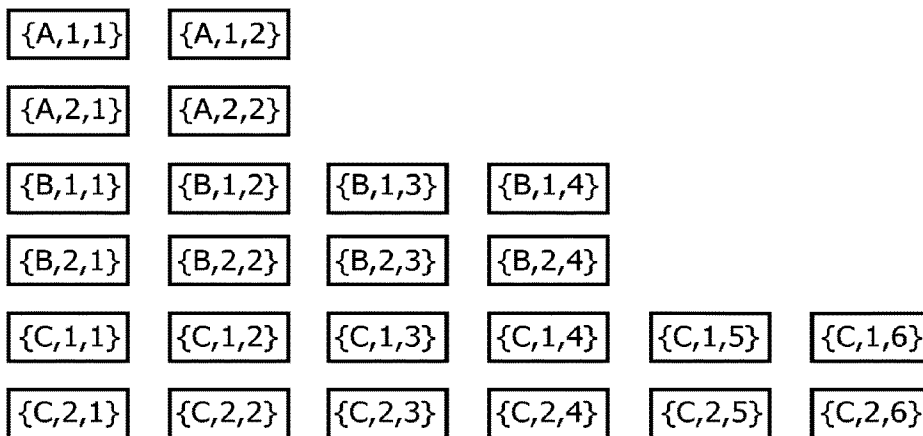
— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: METHOD AND DEVICE FOR DISPLAYING ANIMATED BUTTONS



(57) Abstract: A method of displaying a group of animated buttons (A, B, C) on a display (12) in a synchronized manner is described, each button being associated with at least two sequences of pictures, each sequence being associated with a certain status of the corresponding button, all sequences having the same number of pictures (NP). When the button is in a certain status, the pictures of the corresponding sequence are displayed sequentially and repeatedly in a predetermined order, starting again with the first picture. When a button (X) changes from a current status to a second status (i), display of the sequence associated with the second status starts with the picture having ranking number jx that satisfies the formula:  $jx = [(CC-Q) \text{ mod } NP] + 1$ ; wherein CC indicates the value of a Common Counter which is incremented by 1 at picture display transition moments, the counter being common to all fields belonging to said group; and wherein Q indicates the starting value or reset value of the common counter.

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## Method and device for displaying animated buttons

## FIELD OF THE INVENTION

The present invention relates in general to the field of graphical interfaces between a user and an apparatus such as a personal computer.

## 5 BACKGROUND OF THE INVENTION

Graphical interfaces for computer systems are commonly known. A graphical interface comprises a display screen, for instance a monitor, and the computer system comprises a control system capable of creating menus on the screen. Such menus typically contain text messages showing the user a selection of possible commands he can give. The user can actually give his command by entering a character via a keyboard. It is also possible that the control system allows a user to enter his command by using a mouse-pointer for "clicking" in a predefined portion of the screen; such predefined screen portion is indicated as a "button".

15 A button may just contain text. However, a button may also contain one or more graphical symbols or pictures.

Usually, such graphical symbols or pictures are stationary. A more attractive effect is obtained if the graphical symbols or pictures are moving or changing; this is indicated by the phrase "animation"; buttons capable of performing animation are indicated by the phrase "animated"; buttons.

20 Button animation is achieved by providing a plurality of button pictures (typically in the form of bit maps, as will be clear to a person skilled in the art), and displaying these button pictures sequentially; after the last button picture, the sequence continues with the first button picture. Apart from the contents of the individual button pictures, the button animation is defined by the number of button pictures in the sequence, and the duration of each button picture, or animation rate.

25 The button animation of one button may depend on circumstances, such as for instance the status of a button. For instance, a button may have two possible statuses "SELECTED" or "UNSELECTED", or three possible statuses "SELECTED" or "UNSELECTED BUT AVAILABLE" or "UNAVAILABLE". For each of such different

button statuses, a corresponding button animation sequence may be provided, and the start of a certain button animation sequence may depend on a user action. The number of button pictures in the different animation sequences for one button may be mutually equal, or different. Also, the animation rates for the different animation sequences for one button may be mutually equal, or different.

In case the computer system has two or more animated buttons, each individual animated button has its own button animation sequence or set of button animation sequences, each sequence having an associated number of pictures and rate. The number of button pictures in the different animation sequences for two different buttons may be mutually equal, or different. Also, the animation rates for the different animation sequences for two different buttons may be mutually equal, or different.

In prior proposals, button animations run independent from each other. As a consequence, the movements of all buttons on the screen may appear chaotic to a user or an observer.

Japanese patent application 2002-230573 describes a system where synchronization of the movements of the different buttons is achieved. According to this application, each button animation sequence is replaced by a replacement sequence, which has the same button pictures as the original sequence, but the display duration of the different button pictures is adapted, such that the overall sequence duration is changed. For each button animation sequence, the changes are such that all replacement sequences have the same overall sequence duration. One problem is that this approach is quite complicated; another disadvantage is that for many buttons the overall sequence duration differs from the duration as originally intended for these buttons. Further, the publication does not address the problem that, on the basis of a user action, a different button animation sequence may start for a certain button while the other button animation sequences are already running.

An important objective of the present invention is to ensure synchronization between a plurality of buttons, irrespective of changes caused by user actions.

Further, the present invention aims to allow an author of button animations to create a button animation sequence such that this button animation sequence is displayed in synchronization with one or more other button animation sequences, without the author necessarily having to know these other button animation sequences.



## SUMMARY OF THE INVENTION

According to an important aspect of the present invention, a button animation sequence having NP pictures is started at picture jx, jx being calculated according to

$$jx = [(CC-Q) \bmod NP] + 1;$$

- 5 wherein CC indicates a Common Counter which is incremented by 1 at a predefined animation frame rate, and wherein Q indicates the starting value or reset value of the common counter.

## BRIEF DESCRIPTION OF THE DRAWINGS

- 10 These and other aspects, features and advantages of the present invention will be further explained by the following description with reference to the drawings, in which same reference numerals indicate same or similar parts, and in which:

Fig. 1 schematically shows a block diagram of a computer system;

Fig. 2A schematically shows a display with buttons in 3 fields;

- 15 Fig. 2B shows a sequence of pictures;

Fig. 3 schematically illustrates six series of four button pictures each;

Fig. 4 is a table illustrating a sequence of displayed pictures;

Fig. 5 is a table illustrating a sequence of displayed pictures in accordance with the present invention ;

- 20 Fig. 6 schematically illustrates six series of two, four and six button pictures each;

Fig. 7 is a table illustrating a sequence of displayed pictures in accordance with the present invention.

## 25 DETAILED DESCRIPTION OF THE INVENTION

- Fig. 1 schematically shows a block diagram of a computer system 1, comprising a control system 10, an associated memory 11, a display device 12 such as a monitor, and an input device 13 such as a keyboard, a mouse, etc. The memory 11 may comprise solid state memory, hard disk memory, CD-ROM memory, DVD-ROM memory, 30 BD-ROM memory, etc.

Fig. 2A shows the display device 12 on a larger scale, illustrating that the control system 10 is capable of defining on the display 12 a plurality of fields A, B, C; in this example, three fields are shown. Each field comprises an image displayed in the display 12. The fields A, B, C are animated fields, meaning that the image of a field is not stationary but

varies with time. To this end, the memory 11 contains, for each field A, B, C, at least one series of field pictures having a predetermined order, the pictures for instance being defined in the form of a bit map.

By way of example, Fig. 2B shows a series of six different field pictures, each illustrated as a square with certain contents, and numbered 1 to 6. Thus, the number of pictures in this series is equal to 6, but it should be clear that this number is just an example. For the field corresponding to this series, the control system displays the pictures always in the said predetermined order, that is picture 4 follows picture 3, and then picture 5 is displayed, and so on, as illustrated by arrows. After having displayed the last picture (number 6 in this example), display continues with the first picture (repeated display).

For at least one field, display of the said series of field pictures starts at a moment that is not known in advance, for instance because it depends on some action of the control system 10, or on some action of the user. Before the start of the display of the said series of field pictures, the image of the field may be stationary. It is also possible that, before the start of the display of the said series of field pictures, the image of the field is varying with time by a different series of pictures. Thus, it is possible that the memory 11 contains two or more series of field pictures for a certain field. The different series of field pictures correspond to different states of a field. A field can change state caused by some action of the control system 10, or by some action of the user, for instance by placing a graphic pointer 15 on the field, by moving the pointer 15 over the field, by "clicking" the field, etc.

Normally, when display of a series of pictures is started, display starts at number 1. In accordance with the present invention, display may start at a specific number differing from 1, for instance picture number 3, as illustrated by an arrow marked "start" in Fig. 2B.

In the following, it is assumed that each field is a button. Further, it is assumed that each button has two states, and a button may change from one state to the other on a mouse click. It is noted, however, that these assumptions are for the sake of explaining the invention, but not for limiting the scope of the invention.

Further, the following notation will be used:

In the following, a button X appearing in a first or second (and so on) state will be indicated as X[1] or X[2], etc. The number of button pictures in the series corresponding to a button state X[i] will be indicated as NP(X,i). In each series, button pictures will be numbered 1, 2, ... NP. The  $j^{\text{th}}$  button picture of button X in state [i] will be indicated as BP{X,i,j}.

## FIRST EXAMPLE

In the present example of three buttons, where each button has two states, there are six series of button pictures in all. It is further assumed that all series contain the same number of button pictures, this number being indicated as NP; for instance NP = 4. These six series are illustrated in Fig. 3.

Thus, in the example of Fig. 3:

- each button A, B, C can appear in two states;
- $NP(A,1) = NP(A,2) = NP = 4$
- 10 -  $NP(B,1) = NP(B,2) = NP = 4$
- $NP(C,1) = NP(C,2) = NP = 4$

Thus, memory 11 contains:

- button pictures  $BP\{A,1,1\}$  to  $BP\{A,1,4\}$ ,
- button pictures  $BP\{A,2,1\}$  to  $BP\{A,2,4\}$ ,
- 15 button pictures  $BP\{B,1,1\}$  to  $BP\{B,1,4\}$ ,
- button pictures  $BP\{B,2,1\}$  to  $BP\{B,2,4\}$ ,
- button pictures  $BP\{C,1,1\}$  to  $BP\{C,1,4\}$ , and
- button pictures  $BP\{C,2,1\}$  to  $BP\{C,2,4\}$ .

When a button X is in a certain button state i, the control system 10 is designed to display successively and repeatedly the corresponding button pictures  $BP\{X,i,j=1$  to NP}. The transition from one button picture  $BP\{X,i,j\}$  to the next button picture  $BP\{X,i,j+1\}$  takes place at regular intervals, which may be expressed as time intervals or as a number of displayed frames; these intervals define the display duration  $\Delta t$  of each button picture. It should be clear that, in a system where the display device 12 has a frame rate of 50 frames per second, a display duration of e.g. 5 frames corresponds to 0.1 sec.

Further, it is to be noted that, in this example, the transition from one button picture  $BP\{X,i,j\}$  to the next button picture  $BP\{X,i,j+1\}$  takes place at the same moment for all buttons.

Assume that the animation of buttons A, B and C is started at time  $t_1$ , with each button in its first state. The control system 10 accordingly displays button pictures  $BP\{A,1,1\}$ ,  $BP\{B,1,1\}$ ,  $BP\{C,1,1\}$ , until transition time  $t_2 = t_1 + \Delta t$ , when these button pictures are replaced by  $BP\{A,1,2\}$ ,  $BP\{B,1,2\}$ ,  $BP\{C,1,2\}$ , respectively. And so on. The resulting sequence of displayed pictures is shown in the table of Fig. 4. In the top half of this table, down to time  $t_x$ , it can be seen that the picture series of all buttons are synchronized, in

that all animations start and end at the same moment, as indicated by thick horizontal lines L1. At all times until time  $t_x$ , all animations are in phase with each other, or, in other words, if  $BP\{A,1,i\}$ ,  $BP\{B,1,j\}$ , and  $BP\{C,1,k\}$  are displayed at the same time,  $i=j=k$  applies.

Assume that, at an arbitrary time  $t_x$  determined by the user, the user uses the input device 13 to input a command, changing the status of (at least) one button, starting a new picture sequence for this button. For instance, assume that  $t_x$  is some time between  $t_{14}$  and  $t_{15}$ , and that the second button B changes from its first state to its second state (for instance: from an inactive state to an active state): in response to receiving the user command, the control system 10 starts displaying the series of second state button pictures  $BP\{B,2,j\}$  for this button B.

Displaying the series of second state button pictures  $BP\{B,2,j\}$  may be instantaneous, i.e. immediately after receiving the user command, before the next transition time (here:  $t_{15}$ ). It is also possible that the start of the series of second state button pictures  $BP\{B,2,j\}$  is always delayed until the next transition time. It is also possible that the control system 10 is capable of calculating the time left between the user command and the next transition time, and to make a choice depending on the amount of time left: if this amount of time left is less than a predetermined threshold, the control system 10 may wait until the next transition time, whereas, if the amount of time left is more than said predetermined threshold, the control system 10 may start immediately. A suitable threshold would be 100 ms, for example. In the following, it will be assumed that a new series is always started at the next transition time, but the necessary modifications, if any, will be clear to a person skilled in the art.

When the control system 10 starts display of a new series (in this case: the series of second state button pictures  $BP\{B,2,j\}$ ), the control system 10 has to make a decision as to which specific button picture to start with; this starting picture will be indicated as  $BP\{B,2,j_x\}$ ,  $j_x$  being the ranking number of the starting picture in the series  $BP\{B,2,1\}$  to  $BP\{B,2,NP(B,2)\}$ .

Thus,  $1 \leq j_x \leq NP(B,2)$  applies.

In the illustration of Fig. 2B,  $j_x$  would be equal to 3.

Normally, without special measures in accordance with the invention, the control system 10 will start displaying the series of second state button pictures  $BP\{B,2,j\}$  with the first picture as obvious start picture:  $j_x = 1$ . This picture is indicated in Fig. 4 by a broken line in the shape of an ellipse. As a consequence, the synchronization is lost in that

the animation of button B starts and ends different from buttons A and C, as indicated by thick lines L2 in Fig. 4.

The present invention provides a control system which is designed to maintain animation synchronization. Particularly, the control system is designed to start the animation with a ranking number  $jx$  differing from one,  $jx$  being selected such that it is equal to the ranking number of the pictures of the other buttons.

One possible way of implementing the invention is for the control system to investigate the ranking number of the pictures of the other buttons, and to make  $jx$  equal to this ranking number as found. It is, however, easier to define a group sequence phase GSP as a separate parameter indicating the phase of the group of animations with respect to a group animation period GAP of the group of animations. In the present example, the control system is designed to set the ranking number  $jx$  of the starting picture in accordance with the following formula:

$$jx = GSP \quad (1)$$

In the present example, the group animation period GAP of the group of animations corresponds to the said lines L1 and has a length equal to NP. Thus, in this example, the group sequence phase GSP can have values 1, 2, 3, 4, as indicated in Fig. 4.

The group sequence phase GSP can for instance be implemented as a Common Counter 14 (see Fig. 1), which is incremented by 1 at the transition moments, and which is reset at the beginning of a new synchronization repetition period as indicated by the said lines L1; in that case, the common counter 14 would count 0, 1, 2, 3, 0, 1, 2, 3, 0, etc. It is also possible that the Common Counter 14 is continuously incremented (so that it would count 0, 1, 2, 3, 4, 5, etc), and that the group sequence phase GSP is calculated in accordance with the following formula:

$$GSP = [CC \bmod NP] + 1 \quad (2)$$

wherein CC indicates the value of the Common Counter 14, and wherein mod indicates the modulo operation. It is noted that  $x \bmod x = 0$ , per definition.

Thus, in the same example, assume that, at some time  $t_x$  between  $t_{14}$  and  $t_{15}$ , the second button B changes from its first state to its second state. At time  $t_{15}$ , the control system 10 calculates  $jx$  in accordance with formula (1) and (2):  $jx = GSP = [14 \bmod 4] + 1 = 3$ . Accordingly, at time  $t_{15}$ , the control system 10 starts display of this series with button picture  $BP\{B,2,3\}$  for this button B. The effect is illustrated in Fig. 5, which is a table similar to Fig. 4, now for the series displayed in accordance with the present invention. It can

clearly be seen, as indicated by horizontal lines L1, that all animations are synchronized at all times, even after time  $t_x$ .

It is noted that formula (2), and the illustrations of Figs. 4 and 5, apply for a counter which starts at zero; in case of a counter starting at 1, the formula should read:

5 GSP =  $[(CC-1) \bmod NP] + 1$  . A more general way of expressing formula (2) would be as follows:

$$\text{GSP} = [(CC-Q) \bmod NP] + 1 \quad (3)$$

wherein Q indicates the starting value of the counter. In the present explanation, it will be assumed that the counter starts at zero.

10

## SECOND EXAMPLE

In the previous example, each series contained four button pictures. It is, however, not necessary that all button series have the same number of pictures. In the second example, it is assumed that the number of button pictures may differ from series to series, but 15 they have a common factor larger than one. For instance, assume that button A has two pictures, button B has four pictures, button C has six pictures. These series are illustrated in Fig. 6.

Thus, in the example of Fig. 6:

- each button A, B, C can appear in two states;
- 20 -  $NP(A,1) = NP(A,2) = 2$
- $NP(B,1) = NP(B,2) = 4$
- $NP(C,1) = NP(C,2) = 6$

Thus, memory 11 contains:

- button pictures  $BP\{A,1,1\}$  to  $BP\{A,1,2\}$ ,
- 25 button pictures  $BP\{A,2,1\}$  to  $BP\{A,2,2\}$ ,
- button pictures  $BP\{B,1,1\}$  to  $BP\{B,1,4\}$ ,
- button pictures  $BP\{B,2,1\}$  to  $BP\{B,2,4\}$ ,
- button pictures  $BP\{C,1,1\}$  to  $BP\{C,1,6\}$ , and
- button pictures  $BP\{C,2,1\}$  to  $BP\{C,2,6\}$ .

30

Like in the first example, when a button X is in a certain button state i, the control system 10 is designed to display successively and repeatedly the corresponding button pictures  $BP\{X,i,j=1 \text{ to } NP(X,i)\}$ . The transition from one button picture  $BP\{X,i,j\}$  to the next button picture  $BP\{X,i,j+1\}$  takes place at regular intervals, which define the display duration  $\Delta t$  of each button picture. In this example, the transition from one button picture

BP{X,i,j} to the next button picture BP{X,i,j+1} takes place at the same moment for all buttons.

Assume again that the animation of buttons A, B and C is started at time t1, with each button in its first state. The resulting sequence of displayed pictures is shown in the table of Fig. 7. It can clearly be seen that in this case a group animation period GAP has a length of 12 pictures, as indicated by horizontal lines L3. In general, a group animation period GAP has a length equal to the smallest common multiple of all numbers NP(X,i) of the buttons X in their new state i, which will be indicated as SCM{NP(X,i)}. In this example, SCM{2;4;6}=12.

As in the first example, a group sequence phase GSP with respect to the group animation period GAP is defined, which group sequence phase GSP can now take values 1 to 12, as illustrated in Fig. 7. While, in the first example, NP(X,i) was equal to the length of the group animation period GAP for each button, in this example NP(X,i) may be smaller than the length of the group animation period GAP for one or more buttons. Therefore, in the present example, when a series is to be started, the control system 10 is designed to set the ranking number jx of the starting picture of this series in accordance with the following formula:

$$jx = [(GSP-1) \bmod NP(X,i)] + 1 \quad (4)$$

Like in the first example, the group sequence phase GSP can for instance be implemented as a Common Counter 14 which is incremented by 1 at the transition moments, and which is reset at the beginning of a new synchronization repetition period. It is also possible that the Common Counter 14 is continuously incremented, and that the group sequence phase GSP is calculated in accordance with the following formula:

$$GSP = [(CC-Q) \bmod SCM\{NP(X,i)\}] + 1 \quad (5)$$

Assume again that, at some time tx between t14 and t15, the second button B changes from its first state to its second state. At time t15, the control system 10 calculates jx in accordance with formula (4):

$$jx = [(GSP-1) \bmod 4] + 1 = [2 \bmod 4] + 1 = 3.$$

Accordingly, the control system 10 starts display of this series with button picture BP{B,2,3} for this button B. This is also illustrated in Fig. 7.

Or, assume that, at some time ty between t21 and t22, the third button C changes from its first state to its second state. At time t22, the control system 10 calculates jx in accordance with formula (4):

$$jx = [(GSP-1) \bmod 6] + 1 = [9 \bmod 6] + 1 = 4.$$

Accordingly, the control system 10 starts display of this series with button picture  $BP\{C,2,4\}$  for this button C. It can clearly be seen that, even after time  $t_x$  and after time  $t_y$ , the picture series of each button are synchronized with the longest sequence, in that all animations have a start coinciding with each second start of the animation of button C, as indicated by solid horizontal lines L3.

It is noted that, for button B at time  $t_x$ , another choice for  $j_x$  is also possible. It can be seen from Fig. 7 that, if button B is ignored, the remaining buttons A and C have a synchronization repetition period with a length of 6 pictures. If, at time  $t_{15}$ , display for button B is started with  $BP\{B,2,j_x=1\}$ , animation synchronization is achieved at  $t_{19}$ ; thus, animation synchronization would be maintained, albeit at different synchronization times. These possibilities can be acknowledged in a formula, as follows.

For each button X, a remainder group  $RG(X)$  can always be defined as the group comprising all other buttons. For instance, for button B, the remainder group  $RG(B)$  consists of buttons A and C. Similarly, as the group animation period  $GAP$  defined for the entire group of buttons, a remainder group animation period  $RGAP(X)$  can be defined for each remainder group  $RG(X)$ . Further, for each remainder group  $RG(X)$ , a remainder group sequence phase  $RGSP(X)$  can be defined. The length of an animation period  $AP$  shall be indicated as  $L\{AP\}$ . In the case of the first example:  $L\{RGAP\} = L\{GAP\}$  and  $RGSP = GSP$ . In the case of the second example:  $L\{RGAP(A)\}=12$ ,  $L\{RGAP(B)\}=6$ ,  $L\{RGAP(C)\}=4$ .

Using a common counter as defined above, the remainder group sequence phase  $RGSP(X)$  of a remainder group  $RG(X)$  can be calculated as

$$RGSP(X) = [(CC-Q) \bmod SCM(RG(X))\{NP(Y,i)\}] + 1 \quad (6)$$

wherein  $SCM(RG(X))\{NP(Y,i)\}$  indicates the smallest common multiple of all numbers  $NP(Y,i)$  of the buttons Y in their new state i, but only for the buttons Y belonging to remainder group  $RG(X)$ .

In general, when display of a sequence of button pictures  $BP\{X,i,j\}$  is to be started for a certain button in state i, synchronization is achieved or maintained if display starts at button pictures  $BP\{X,i,j_x\}$  with starting number  $j_x$  calculated according to

$$j_x = [(RGSP(X) + n \cdot L\{RGAP(X)\} - 1) \bmod NP(X,i)] + 1 \quad (7)$$

wherein n is an integer. It should be clear to a person skilled in the art that the time until the next synchronization moment depends on the selection of n. For instance, using this formula (7) for calculating  $j_x$  for button C at time  $t_{22}$  in Fig. 7, if it is desired that the original synchronization moment at time  $t_{25}$  is maintained, n should be selected to be equal to 2.



Further, using this approach involves the problem that, each time a certain button X makes a change of state, the remainder group  $RG(X)$  must be established and the parameters  $RGSP(X)$  and  $L\{RGAP(X)\}$  must be determined.

Thus, the approach of formula (4) is preferred.

5 It is noted that the Common Counter is common to all buttons whose animations are to be synchronized. It may be that a second group of buttons is present, whose animations also are to be synchronized, but independently from the buttons of the first group.

10 It is further noted that the Common Counter may be actually implemented as one counter, as illustrated in Fig. 1. Alternatively, however, it is possible to have separate counters for different buttons, as long as the separate counters are mutually synchronized.

A further elaboration of the present invention relates to the Common Counter. In theory, a counter may be incremented indefinitely. In practice, however, a counter is implemented as the contents of a memory location, the memory location containing a fixed number of bits which sets an upper limit to the contents of the memory location, hence an upper limit to the maximum counter value. For instance, in the case of a 16 bit counter, and an animation rate of 30 pictures per second, the counter will reach its maximum value after approximately 36 minutes: then, the counter resets to zero (or to one, depending on design). After such a reset, the calculations based on the common counter are not reliable any more.

The present invention provides several possible solutions.

20 A first solution is to use a counter with a large maximum value. For instance, using a 32 bit counter will result in a counter reset after approximately 4.5 years only, so that the chance that a user actually is confronted with a counter reset in practice is negligible.

In a second solution, the control system 10 is designed to calculate a common multiple of the numbers of button pictures NP of all button states. For instance, in a case with 25 three buttons, the first having an animation sequence with 3 button pictures ( $NP=3$ ), the second having an animation sequence with 4 button pictures ( $NP=4$ ), the third having an animation sequence with 5 button pictures ( $NP=5$ ), the smallest common multiple SCM is equal to  $3 \times 4 \times 5 = 60$ . The control system 10 is further designed to reset the counter CC each time its value reaches the smallest common multiple (or, if desired, a common multiple larger 30 than the smallest common multiple, yet smaller than the maximum counter value).

In the above, an embodiment is described where the ranking number of a button picture to be displayed is always incremented by one at a transition time, and is only calculated in accordance with the invention in the case of a transition from one button state to another. A third solution to the above-mentioned problem is to always calculate the ranking

number of a button picture to be displayed in accordance with the above formulas at each transition time. An advantage is that the control system 10 does not need to perform differently after a button state change. A further advantage is that the button animations are always synchronized, even after a clock reset, whether occurring after reaching the maximum  
5 clock value or occurring due to any other reason.

This is illustrated in the lower half of Fig. 5. Assume that, at some moment between  $t_{26}$  and  $t_{27}$ , the counter is reset from 25 to zero. Then, at  $t_{27}$ , the control system 10 calculates the ranking numbers of the button pictures to be displayed, resulting in  $j_x=1$  for all picture sequences. In other words, all animations reset to their first picture. A user carefully  
10 watching the screen might notice a "blink" at time  $t_{27}$  when all animations suddenly present their first picture while the third picture was expected. But, important to note, synchronization between the animations is preserved, as clearly indicated in Fig. 5.

Without reset, such blink is expected each time the counter reaches its maximum value. In the case of a 16 bit counter, assuming an animation rate of 30 pictures  
15 per second, the blink occurs once every thirty minutes, which may be found acceptable; in the case of a 32 bit counter, a blink occurs only once every 4.5 years. Of course, it is to be noted that no visible blink would occur if each sequence contains 2 or 4 or 8 or 16 etc pictures, as in this example.

In a preferred embodiment, the second and third solutions are combined.

20 In the above explanation it was assumed that the animations of all buttons should be synchronized with each other. It is however also possible that there are two or more subgroups of buttons, the buttons in one group  $G_1$  being synchronized with each other, the buttons in a second group  $G_2$  being also synchronized with each other but not with the buttons of the first group  $G_1$ . In such case, different and independently running counters  
25 may be used for the different subgroups. The definition of the subgroups may be predetermined and fixed, but it may also be changed. In an example of embodiment, the first group  $G_1$  may contain all buttons having a first status, for example "unselected". In another example of embodiment, the first group  $G_1$  may contain all buttons  $X$  which, in the current status  $i$ , have the same value  $NP(X,i)$ .

30 For instance, it is possible that the animation of a button  $X$  comprises three pictures for the selected state and five pictures for the unselected state. A first counter  $CC_1$  is running for all buttons having animations with three pictures, a second counter  $CC_2$  is running for all buttons having animations with five pictures.

When this button X changes from selected to unselected, the next picture is calculated in accordance with the formula

$jx = [CC2 \bmod(5)] + 1$ ; when this button X changes from unselected to selected, the next picture is calculated in accordance with the formula  $jx = [CC1 \bmod(3)] + 1$ .

5 It is also possible that each button has a synchronization parameter associated with it. Values of the synchronization parameters for at least some buttons, but preferably all buttons, are stored in the memory 11. In a possible embodiment, the buttons have a button identifier ID in the form of a 16-bit word, in which case the most significant bit of this identifier can be used as a synchronization parameter, having a value either 1 or 0. Normally, 10 if a button is defined with a tool not implemented in accordance with the present invention, the synchronization parameter will be 0 (default value). In this embodiment, the control system 10 is designed to read the synchronization parameter of the buttons, and the operation of the control system 10 in relation to a certain button depends on the value of the synchronization parameter for that button. If the synchronization parameter has a first value, 15 the control system 10 is designed to always set the ranking number  $jx$  of the starting picture in accordance with formula (1), otherwise the control system 10 is designed to always set the ranking number  $jx = 1$  (or another constant value). In the preferred embodiment, the first value of the synchronization parameter is equal to the default value.

20 It should be clear to a person skilled in the art that the present invention is not limited to the exemplary embodiments discussed above, but that several variations and modifications are possible within the protective scope of the invention as defined in the appended claims.

For instance, in the above the present invention has been explained for animated buttons. However, the use of the present invention is not restricted to buttons: the 25 present invention can be used in relation to any animated object, even individual characters.

Further, in the above examples, all buttons have only two states. However the present invention is also applicable to cases where one or more buttons have three or more states.

30 Further, in the above examples, for each button the number of button pictures in one state is the same as the number of button pictures in the other state. However, this is not essential: for one or more buttons X,  $NP(X,1)$  may differ from  $NP(X,2)$ .

Further, in the above examples, it is assumed that all buttons have the same display duration for the pictures. As a consequence, all pictures are changed at the same transition times. For instance, the display duration may be 5 frames, corresponding to 0.1 sec

in a 50 frames/second display system; then, an animation comprising 6 pictures has an animation period of 0.6 sec, and, in the case of example 2 of Fig. 7, a group animation period of 1.2 sec. However, it is not necessary that all buttons have the same display duration for the pictures. It should be clear to a person skilled in the art how the formulas given in the above examples should be adapted to a case with mutually differing picture display durations. For instance, assume that button B would have a display duration twice as long as buttons A and C. Referring to Fig. 7, button C would only change pictures at times  $t_1, t_3, t_5, t_7$ , etc. This would be equivalent to having a series of eight pictures  $BP(B,i,1)$  to  $BP(B,i,8)$ , so that  $NP(B,i)=8$ , wherein two subsequent pictures are identical. Based on this equivalence, such cases with different display durations are considered to be covered by the claims.

Further, although the present invention can be specifically used in relation to menus of a BD-ROM player, the present invention is not so restricted. For instance, the present invention can also be used in relation to a presentation on an internet page.

In the above, the present invention has been explained with reference to block diagrams, which illustrate functional blocks of the device according to the present invention. It is to be understood that one or more of these functional blocks may be implemented in hardware, where the function of such functional block is performed by individual hardware components, but it is also possible that one or more of these functional blocks are implemented in software, so that the function of such functional block is performed by one or more program lines of a computer program or a programmable device such as a microprocessor, microcontroller, digital signal processor, etc.

## CLAIMS:

1. Method of displaying a group of animated fields (A, B, C) on a display (12) in a synchronized manner, at least one field (B) being associated with at least two sequences of pictures, each sequence being associated with a certain status of the corresponding field; wherein, when a field is in a certain status, the pictures of the corresponding sequence are displayed sequentially and repeatedly in a predetermined order, starting again with the first picture after having displayed the last picture;

5 wherein, at least when a field (X) changes from a current status to a second status (i), display of the sequence associated with the second status starts with the picture having ranking number  $j_x$  satisfying the formula:

$$10 \quad j_x = [(RGSP(X) + n \cdot L\{RGAP(X)\} - 1) \bmod NP(X,i)] + 1$$

$n$  being an integer;

wherein  $NP(X,i)$  indicates the number of pictures in the sequence associated with status  $i$  of field  $X$ ;

15 wherein  $RGAP(X)$  indicates an animation period of a remainder group  $RG(X)$  of fields, being defined as the said group with the said field  $X$  being excluded;

wherein  $L\{RGAP(X)\}$  indicates the length of the said remainder group animation period  $RGAP(X)$ ;

wherein  $RGSP(X)$  indicates a group sequence phase of the said remainder group  $RG(X)$  with respect to said remainder group animation period  $RGAP(X)$ .

20

2. Method according to claim 1, wherein the remainder group sequence phase  $RGSP(X)$  is calculated as

$$RGSP(X) = [(CC-Q) \bmod SCM(RG(X))\{NP(Y,i)\}] + 1$$

25 wherein  $SCM(RG(X))\{NP(Y,i)\}$  indicates the smallest common multiple of all numbers  $NP(Y,i)$  of the buttons  $Y$  in their new state  $i$ , but only for the buttons  $Y$  belonging to remainder group  $RG(X)$ ;

wherein  $CC$  indicates the value of a Common Counter which is incremented by 1 at picture display transition moments, the counter being common to all fields belonging to said group;

and wherein Q indicates the starting value or reset value of the common counter.

3. Method of displaying a group of animated fields (A, B, C) on a display (12) in a synchronized manner, at least one field (B) being associated with at least two sequences of pictures, each sequence being associated with a certain status of the corresponding field;

wherein, when a field is in a certain status, the pictures of the corresponding sequence are displayed sequentially and repeatedly in a predetermined order, starting again with the first picture after having displayed the last picture;

10 wherein, at least when a field (X) changes from a current status to a second status (i), display of the sequence associated with the second status starts with the picture having ranking number jx satisfying the formula:

$$jx = [(GSP-1) \text{ mod } NP(X,i)] + 1$$

15 wherein NP(X,i) indicates the number of pictures in the sequence associated with status i of field X;

and wherein GSP indicates a group synchronization phase of the said group of fields with respect to a synchronization repetition period of the said group of fields.

4. Method according to claim 3, wherein the group sequence phase GSP is calculated as

$$GSP = [(CC-Q) \text{ mod } SCM\{NP(X,i)\}] + 1$$

wherein SCM{NP(X,i)} indicates the smallest common multiple of all numbers NP(X,i) of the buttons X in their new state i;

25 wherein CC indicates the value of a Common Counter which is incremented by 1 at picture display transition moments, the counter being common to all fields belonging to said group;

and wherein Q indicates the starting value or reset value of the common counter.

30 5. Method of displaying a group of animated fields (A, B, C) on a display (12) in a synchronized manner, at least one field (B) being associated with at least two sequences of pictures, each sequence being associated with a certain status of the corresponding field, all sequences having the same number of pictures (NP);

wherein, when a field is in a certain status, the pictures of the corresponding

sequence are displayed sequentially and repeatedly in a predetermined order, starting again with the first picture after having displayed the last picture;

wherein, at least when a field (X) changes from a current status to a second status (i), display of the sequence associated with the second status starts with the picture

5 having ranking number  $j_x$  satisfying the formula:

$$j_x = \text{GSP}$$

wherein GSP indicates a group synchronization phase of the said group of fields with respect to a synchronization repetition period of the said group of fields.

10 6. Method according to claim 5, wherein the group sequence phase GSP is calculated as

$$\text{GSP} = [(\text{CC}-\text{Q}) \bmod \text{NP}] + 1$$

wherein CC indicates the value of a Common Counter which is incremented by 1 at picture display transition moments, the counter being common to all fields belonging

15 to said group;

and wherein Q indicates the starting value or reset value of the common counter.

7. Method according to claim 1 or 3, wherein the number (NP(X,1)) of pictures in a first sequence corresponding to a first status of one animated field (X) differs from the number (NP(X,2)) of pictures in a second sequence corresponding to a second status of the same animated field (X).

8. Method according to claim 1 or 3, wherein the number (NP(A,1)) of pictures in a first sequence corresponding to a first status of one animated field (A) differs from the number (NP(B,1)) of pictures in a second sequence corresponding to a first status of a second animated field (B).

9. Method according to claim 1, wherein the group sequence phase RGSP is calculated as

$$\text{RGSP}(X) = [(\text{CC}-\text{Q}) \bmod \text{SCM}(\text{RG}(X))\{\text{NP}(Y,i)\}] + 1$$

wherein  $\text{SCM}(\text{RG}(X))\{\text{NP}(Y,i)\}$  indicates the smallest common multiple of all numbers NP(Y,i) of the buttons Y in their new state i, but only for the buttons Y belonging to remainder group RG(X);

wherein CC indicates the value of a Common Counter which is incremented by 1 at picture display transition moments, the counter being common to all fields belonging to said group;

5 and wherein Q indicates the starting value or reset value of the common counter;

wherein the number (NP(X,1)) of pictures in a first sequence corresponding to a first status of one animated field (X) differs from the number (NP(X,2)) of pictures in a second sequence corresponding to a second status of the same animated field (X);

10 wherein the common clock CC is common to both the first and second sequences.

10. Method according to claim 1, wherein the group sequence phase RGSP is calculated as

$$RGSP(X) = [(CC-Q) \bmod SCM(RG(X))\{NP(Y,i)\}] + 1$$

15 wherein SCM(RG(X))\{NP(Y,i)\} indicates the smallest common multiple of all numbers NP(Y,i) of the buttons Y in their new state i, but only for the buttons Y belonging to remainder group RG(X);

20 wherein CC indicates the value of a Common Counter which is incremented by 1 at picture display transition moments, the counter being common to all fields belonging to said group;

and wherein Q indicates the starting value or reset value of the common counter;

25 wherein the number (NP(A,1)) of pictures in a first sequence corresponding to a first status of one animated field (A) differs from the number (NP(B,1)) of pictures in a second sequence corresponding to a first status of a second animated field (B);

wherein the common clock CC is common to both the first and second sequences.

30 11. Method according to claim 1, wherein the group sequence phase RGSP is calculated as

$$RGSP(X) = [(CC-Q) \bmod SCM(RG(X))\{NP(Y,i)\}] + 1$$

wherein SCM(RG(X))\{NP(Y,i)\} indicates the smallest common multiple of all numbers NP(Y,i) of the buttons Y in their new state i, but only for the buttons Y belonging to remainder group RG(X);



wherein CC indicates the value of a Common Counter which is incremented by 1 at picture display transition moments, the counter being common to all fields belonging to said group;

5 and wherein Q indicates the starting value or reset value of the common counter;

wherein the number (NP(X,1)) of pictures in a first sequence corresponding to a first status of one animated field (X) differs from the number (NP(X,2)) of pictures in a second sequence corresponding to a second status of the same animated field (X);

10 wherein a first common clock CC1 is used for all sequences having the same number (NP(X,1); NP(A,1)) of pictures as the first sequence, and wherein a second common clock CC2 is used for all sequences having the same number (NP(X,2); NP(B,1)) of pictures as the second sequence.

12. Method according to claim 1, wherein the group sequence phase RGSP is  
15 calculated as

$$RGSP(X) = [(CC-Q) \bmod SCM(RG(X)) \{NP(Y,i)\}] + 1$$

wherein  $SCM(RG(X)) \{NP(Y,i)\}$  indicates the smallest common multiple of all numbers NP(Y,i) of the buttons Y in their new state i, but only for the buttons Y belonging to remainder group RG(X);

20 wherein CC indicates the value of a Common Counter which is incremented by 1 at picture display transition moments, the counter being common to all fields belonging to said group;

and wherein Q indicates the starting value or reset value of the common counter;

25 wherein the number (NP(A,1)) of pictures in a first sequence corresponding to a first status of one animated field (A) differs from the number (NP(B,1)) of pictures in a second sequence corresponding to a first status of a second animated field (B);

30 wherein a first common clock CC1 is used for all sequences having the same number (NP(X,1); NP(A,1)) of pictures as the first sequence, and wherein a second common clock CC2 is used for all sequences having the same number (NP(X,2); NP(B,1)) of pictures as the second sequence.

13. Method according to claim 1 or 3, wherein a first sequence contains a first number of pictures, wherein a second sequence contains a second number of pictures, and wherein the second number divided by the first number equals an integer larger than 1.
- 5 14. Method according to claim 2, wherein the counter is reset when reaching a counter value equal to a common multiple of the numbers  $NP(Y,i)$  of the buttons Y in their new state i, the buttons Y belonging to remainder group  $RG(X)$ , this common multiple preferably being the smallest common multiple  $SCM(RG(X))\{NP(Y,i)\}$  of these numbers.
- 10 15. Method according to claim 4, wherein the counter is reset when reaching a counter value equal to a common multiple of the numbers  $NP(X,i)$  of pictures of all field states associated with this counter, this common multiple preferably being the smallest common multiple  $SCM\{NP(X,i)\}$  of these numbers.
- 15 16. Method according to claim 6, wherein the counter is reset when reaching a counter value equal to a multiple of NP, preferably when reaching a counter value equal to of NP.
17. Method according to any of claims 1, 3, 5, wherein a field comprises a button.
- 20 18. Apparatus (1), comprising:  
a control system (10);  
an associated memory (11);  
a display device (12) such as a monitor;
- 25 the control system (10) being designed to perform the method according to any of claims 1-17.

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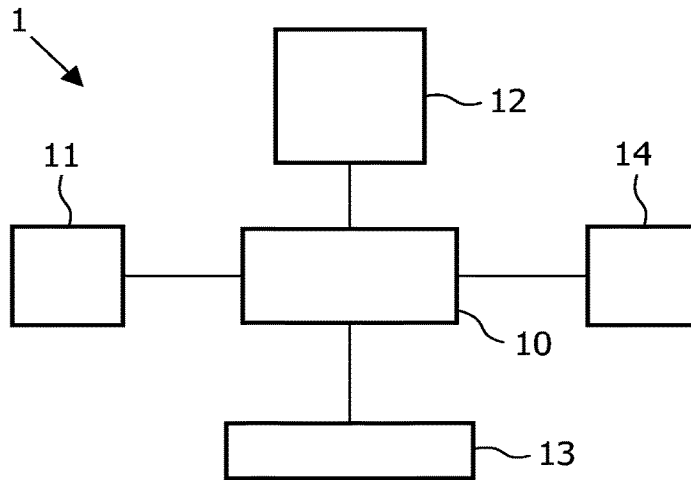


FIG.1

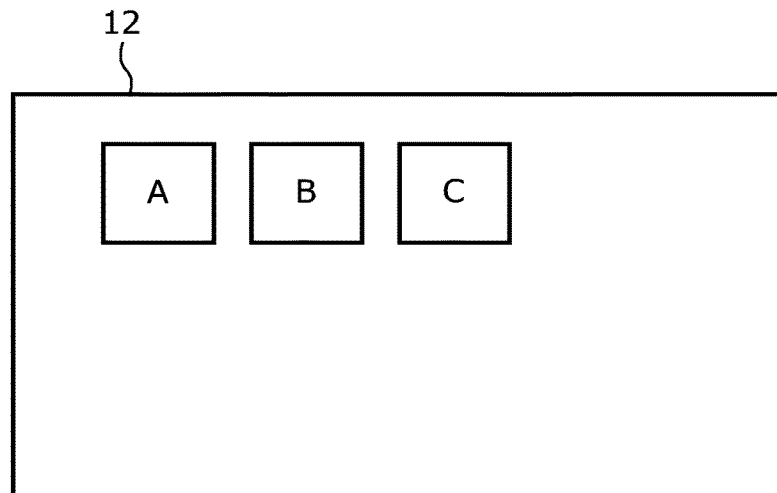


FIG.2A

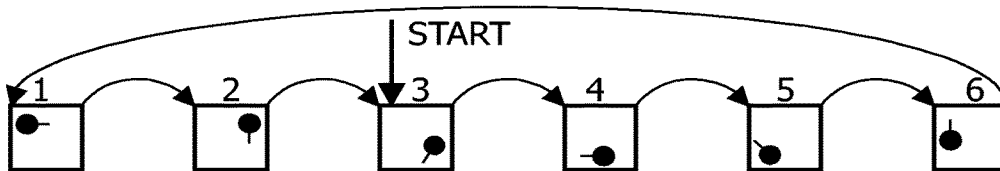


FIG.2B

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{A,1,1}	{A,1,2}	{A,1,3}	{A,1,4}
{A,2,1}	{A,2,2}	{A,2,3}	{A,2,4}
{B,1,1}	{B,1,2}	{B,1,3}	{B,1,4}
{B,2,1}	{B,2,2}	{B,2,3}	{B,2,4}
{C,1,1}	{C,1,2}	{C,1,3}	{C,1,4}
{C,2,1}	{C,2,2}	{C,2,3}	{C,2,4}

FIG.3

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time	button A	button B	button C	GSP	CC	
t1	BP{A,1,1}	BP{B,1,1}	BP{C,1,1}	1	0	
t2 = t1 + Δt	BP{A,1,2}	BP{B,1,2}	BP{C,1,2}	2	1	
t3 = t2 + Δt	BP{A,1,3}	BP{B,1,3}	BP{C,1,3}	3	2	L1
t4	BP{A,1,4}	BP{B,1,4}	BP{C,1,4}	4	3	
<hr/>						
t5	BP{A,1,1}	BP{B,1,1}	BP{C,1,1}	1	4	
t6	BP{A,1,2}	BP{B,1,2}	BP{C,1,2}	2	5	
t7	BP{A,1,3}	BP{B,1,3}	BP{C,1,3}	3	6	L1
t8	BP{A,1,4}	BP{B,1,4}	BP{C,1,4}	4	7	
<hr/>						
t9	BP{A,1,1}	BP{B,1,1}	BP{C,1,1}	1	8	
t10	BP{A,1,2}	BP{B,1,2}	BP{C,1,2}	2	9	
t11	BP{A,1,3}	BP{B,1,3}	BP{C,1,3}	3	10	L1
t12	BP{A,1,4}	BP{B,1,4}	BP{C,1,4}	4	11	
<hr/>						
t13	BP{A,1,1}	BP{B,1,1}	BP{C,1,1}	1	12	
t14	BP{A,1,2}	BP{B,1,2}	BP{C,1,2}	2	13	
tx → t15	BP{A,1,3}	BP{B,2,1}	BP{C,1,3}	3	14	
t16	BP{A,1,4}	BP{B,2,2}	BP{C,1,4}	4	15	L2
<hr/>						
t17	BP{A,1,1}	BP{B,2,4}	BP{C,1,1}	1	16	
t18	BP{A,1,2}		BP{C,1,2}	2	17	
t19	BP{A,1,3}	BP{B,2,1}	BP{C,1,3}	3	18	
t20	BP{A,1,4}	BP{B,2,2}	BP{C,1,4}	4	19	L2
<hr/>						
t21	BP{A,1,1}	BP{B,2,4}	BP{C,1,1}	1	20	
t22	BP{A,1,2}		BP{C,1,2}	2	21	
t23	BP{A,1,3}	BP{B,2,1}	BP{C,1,3}	3	22	
t24	BP{A,1,4}	BP{B,2,2}	BP{C,1,4}	4	23	L2
<hr/>						
t25	BP{A,1,1}	BP{B,2,4}	BP{C,1,1}	1	24	
t26	BP{A,1,2}		BP{C,1,2}	2	25	
t27	BP{A,1,3}	BP{B,2,1}	BP{C,1,3}	3	26	
t28	BP{A,1,4}	BP{B,2,2}	BP{C,1,4}	4	27	
		BP{B,2,3}				
		BP{B,2,4}				

FIG.4

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time	button A	button B	button C	GSP	CC	
t1	BP{A,1,1}	BP{B,1,1}	BP{C,1,1}	1	0	
t2 = t1 + Δt	BP{A,1,2}	BP{B,1,2}	BP{C,1,2}	2	1	
t3 = t2 + Δt	BP{A,1,3}	BP{B,1,3}	BP{C,1,3}	3	2	L1
t4	BP{A,1,4}	BP{B,1,4}	BP{C,1,4}	4	3	
<hr/>						
t5	BP{A,1,1}	BP{B,1,1}	BP{C,1,1}	1	4	
t6	BP{A,1,2}	BP{B,1,2}	BP{C,1,2}	2	5	
t7	BP{A,1,3}	BP{B,1,3}	BP{C,1,3}	3	6	L1
t8	BP{A,1,4}	BP{B,1,4}	BP{C,1,4}	4	7	
<hr/>						
t9	BP{A,1,1}	BP{B,1,1}	BP{C,1,1}	1	8	
t10	BP{A,1,2}	BP{B,1,2}	BP{C,1,2}	2	9	
t11	BP{A,1,3}	BP{B,1,3}	BP{C,1,3}	3	10	L1
t12	BP{A,1,4}	BP{B,1,4}	BP{C,1,4}	4	11	
<hr/>						
t13	BP{A,1,1}	BP{B,1,1}	BP{C,1,1}	1	12	
t14	BP{A,1,2}	BP{B,1,2}	BP{C,1,2}	2	13	
t15	BP{A,1,3}	BP{B,2,3}	BP{C,1,3}	3	14	L1
t16	BP{A,1,4}	BP{B,2,4}	BP{C,1,4}	4	15	
<hr/>						
t17	BP{A,1,1}	BP{B,2,1}	BP{C,1,1}	1	16	
t18	BP{A,1,2}	BP{B,2,2}	BP{C,1,2}	2	17	
t19	BP{A,1,3}	BP{B,2,3}	BP{C,1,3}	3	18	L1
t20	BP{A,1,4}	BP{B,2,4}	BP{C,1,4}	4	19	
<hr/>						
t21	BP{A,1,1}	BP{B,2,1}	BP{C,1,1}	1	20	
t22	BP{A,1,2}	BP{B,2,2}	BP{C,1,2}	2	21	
t23	BP{A,1,3}	BP{B,2,3}	BP{C,1,3}	3	22	L1
t24	BP{A,1,4}	BP{B,2,4}	BP{C,1,4}	4	23	
<hr/>						
t25	BP{A,1,1}	BP{B,2,1}	BP{C,1,1}	1	24	
t26	BP{A,1,2}	BP{B,2,2}	BP{C,1,2}	2	25	
t27	BP{A,1,1}	BP{B,2,1}	BP{C,1,1}	1	0	← reset
t28	BP{A,1,2}	BP{B,2,2}	BP{C,1,2}	2	1	
t29	BP{A,1,3}	BP{B,2,3}	BP{C,1,3}	3	2	L1
t30	BP{A,1,4}	BP{B,2,4}	BP{C,1,4}	4	3	
<hr/>						
t31	BP{A,1,1}	BP{B,2,1}	BP{C,1,1}	1	4	
t32	BP{A,1,2}	BP{B,2,2}	BP{C,1,2}	2	5	
t33	BP{A,1,3}	BP{B,2,3}	BP{C,1,3}	3	6	L1
t34	BP{A,1,4}	BP{B,2,4}	BP{C,1,4}	4	7	
<hr/>						
t35	BP{A,1,1}	BP{B,2,1}	BP{C,1,1}	1	8	
t36	BP{A,1,2}	BP{B,2,2}	BP{C,1,2}	2	9	

FIG.5

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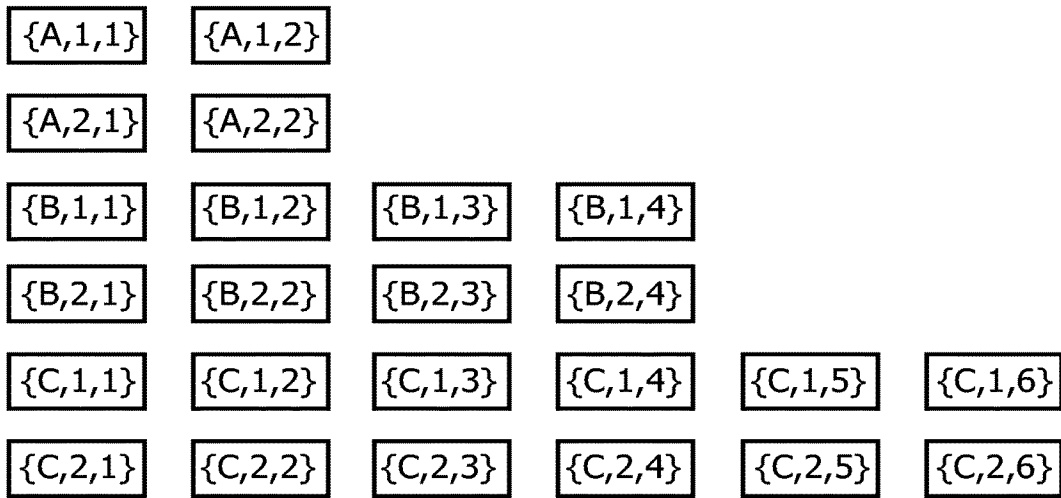


FIG.6

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time	button A	button B	button C	GSP	CC	RGSP(B)	RGSP(C)
t1	BP{A,1,1}	BP{B,1,1}	BP{C,1,1}	1	0	1	1
t2 = t1 + Δt	BP{A,1,2}	BP{B,1,2}	BP{C,1,2}	2	1	2	2
t3 = t2 + Δt	BP{A,1,1}	BP{B,1,3}	BP{C,1,3}	3	2	3	3
t4	BP{A,1,2}	BP{B,1,4}	BP{C,1,4}	4	3	4	4
t5	BP{A,1,1}	BP{B,1,1}	BP{C,1,5}	5	4	5	1
t6	BP{A,1,2}	BP{B,1,2}	BP{C,1,6}	6	5	6	2
t7	BP{A,1,1}	BP{B,1,3}	BP{C,1,1}	7	6	1	3
t8	BP{A,1,2}	BP{B,1,4}	BP{C,1,2}	8	7	2	4
t9	BP{A,1,1}	BP{B,1,1}	BP{C,1,3}	9	8	3	1
t10	BP{A,1,2}	BP{B,1,2}	BP{C,1,4}	10	9	4	2
t11	BP{A,1,1}	BP{B,1,3}	BP{C,1,5}	11	10	5	3
t12	BP{A,1,2}	BP{B,1,4}	BP{C,1,6}	12	11	6	4
<hr/>							
t13	BP{A,1,1}	BP{B,1,1}	BP{C,1,1}	1	12	1	1
tx → t14	BP{A,1,2}	BP{B,1,2}	BP{C,1,2}	2	13	2	2
t15	BP{A,1,1}	BP{B,2,3}	BP{C,1,3}	3	14	3	3
t16	BP{A,1,2}	BP{B,2,4}	BP{C,1,4}	4	15	4	4
t17	BP{A,1,1}	BP{B,2,1}	BP{C,1,5}	5	16	5	1
t18	BP{A,1,2}	BP{B,2,2}	BP{C,1,6}	6	17	6	2
t19	BP{A,1,1}	BP{B,2,3}	BP{C,1,1}	7	18	1	3
t20	BP{A,1,2}	BP{B,2,4}	BP{C,1,2}	8	19	2	4
ty → t21	BP{A,1,1}	BP{B,2,1}	BP{C,1,3}	9	20	3	1
t22	BP{A,1,2}	BP{B,2,2}	BP{C,2,4}	10	21	4	2
t23	BP{A,1,1}	BP{B,2,3}	BP{C,2,5}	11	22	5	3
t24	BP{A,1,2}	BP{B,2,4}	BP{C,2,6}	12	23	6	4
<hr/>							
t25	BP{A,1,1}	BP{B,2,1}	BP{C,2,1}	1	24	1	1
t26	BP{A,1,2}	BP{B,2,2}	BP{C,2,2}	2	25	2	2
t27	BP{A,1,1}	BP{B,2,3}	BP{C,2,3}	3	26	3	3
t28	BP{A,1,2}	BP{B,2,4}	BP{C,2,4}	4	27	4	4

L3

L3

FIG.7





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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
11/620,720	01/07/2007	John Harper	04860.P5061	9804

45217 7590 06/23/2009  
APPLE INC./BSTZ  
BLAKELY SOKOLOFF TAYLOR & ZAFMAN LLP  
1279 OAKMEAD PARKWAY  
SUNNYVALE, CA 94085-4040

EXAMINER
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RAAB, CHRISTOPHER J

ART UNIT	PAPER NUMBER
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2156

MAIL DATE	DELIVERY MODE
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06/23/2009

PAPER

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

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 11/620,720	<b>Applicant(s)</b> HARPER ET AL.	
	<b>Examiner</b> Christopher J. Raab	<b>Art Unit</b> 2156	

-- 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) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, 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 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 20 March 2009.
- 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) 1-25 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) 1-25 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 checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>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                        |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date: _____. | 6) <input type="checkbox"/> Other: _____.  |

### DETAILED ACTION

01. This action is in response to Applicant's amendment filed on **03/20/09**. **Claims 1 – 25** are pending in the present application. **This action is made FINAL**, as necessitated by amendment.

#### ***Claim Rejections - 35 USC § 102***

02. 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.

03. **Claims 1 – 3, 6 – 11, 13 – 18, and 20 – 25** are rejected under 35 U.S.C. 102(b) as being unpatentable over **Ridgley et al. (US PGPub 2003/0160832)**, hereinafter 'Ridgley'.

Consider **claim 1**, Ridgley discloses a machine implemented method for compositing media and non-media content of a user interface for display on a device (paragraphs [0012], [0013]), comprising:

a structured hierarchy of information, which contains layers, each corresponding to different items for display, which are all parts of the user interface (read as constructing a data structure having a hierarchy of layers for storing media and non-media content associated with the user interface to be displayed on a display of the device) (paragraphs [0022] – [0024], [0062] – [0064], Figures 1 – 4);

each layer of the hierarchy being associated with a content portion of the user interface, which can correspond to various types of information, including text images, video, etc. (read as traversing layers of the hierarchy of the data structure to determine whether each layer of the data structure is associated with media or non-media) (paragraphs [0062] – [0064], [0089] – [0093], Figures 11A – 11E);

the different content types being stored in different locations within the hierarchy (read as storing media content in a first memory location, storing non-media content in a second memory location) (paragraphs [0062] - [0064], [0121] - [0124], Figure 11A);

the user interface and display containing the content from the different layers of the hierarchy (read as compositing the media and non-media content from the first and second memory locations and displaying the composited media and non-media content representing the user interface on the display of the device) (paragraphs [0050], [0051], [0061], [0062], [0097], Figures 12A – 12T).

Consider **claim 2**, and **as applied to claim 1 above**, Ridgley discloses a method such that separate layers of the hierarchy can be associated with video content (read as detaching any layer associated with media content from the data structure) (paragraphs [0091] - [0093], Figures 12A – 12T).

Consider **claim 3**, and **as applied to claim 1 above**, Ridgley discloses a method such that the different content pieces from the hierarchy are directly outputted on the display (read as retrieving the media content from the first memory location, retrieving the non-media content from the second memory location, and scanning the media and

non-media content directly to the display) (paragraphs [0089] – [0091], Figures 12A – 12T).

Consider **claim 6**, and **as applied to claim 1 above**, Ridgley discloses a method such that the content can be video content (read as the media content comprises video content) (paragraphs [0089] - [0094], Figures 12A – 12T).

Consider **claim 7**, and **as applied to claim 3 above**, Ridgley discloses a method such that the size of the different content can be altered (read as scaling the media content prior to sending the media content to the display) (paragraph [0077]).

Consider **claim 8**, and **as applied to claim 1 above**, Ridgley discloses a method such that the device is a touch screen (read as the device is one of: a multi touch device) (paragraphs [0070], [0103]).

Consider **claim 9**, Ridgley discloses a machine readable storage medium storing executable program instructions which when executed cause a data processing system to perform a method (paragraphs [0012], [0013]), comprising:

a structured hierarchy of information, which contains layers, each corresponding to different items for display, which are all parts of the user interface (read as constructing a data structure having a hierarchy of layers for storing media and non-media content associated with the user interface to be displayed on a display of the device) (paragraphs [0022] – [0024], [0062] – [0064], Figures 1 – 4);

each layer of the hierarchy being associated with a content portion of the user interface, which can correspond to various types of information, including text images, video, etc. (read as traversing layers of the hierarchy of the data structure to determine

whether each layer of the data structure is associated with media or non-media)

(paragraphs [0062] – [0064], [0089] – [0093], Figures 11A – 11E);

the different content types being stored in different locations within the hierarchy (read as storing media content in a first memory location, storing non-media content in a second memory location) (paragraphs [0062] - [0064], [0121] - [0124], Figure 11A);

the user interface and display containing the content from the different layers of the hierarchy (read as compositing the media and non-media content from the first and second memory locations and displaying the composited media and non-media content representing the user interface on the display of the device) (paragraphs [0050], [0051], [0061], [0062], [0097], Figures 12A – 12T).

Consider **claim 10**, and **as applied to claim 9 above**, Ridgley discloses a medium such that separate layers of the hierarchy can be associated with video content (read as detaching any layer associated with media content from the data structure) (paragraphs [0091] - [0093], Figures 12A – 12T).

Consider **claim 11**, and **as applied to claim 9 above**, Ridgley discloses a medium such that the different content pieces from the hierarchy are directly outputted on the display (read as retrieving the media content from the first memory location, retrieving the non-media content from the second memory location, and scanning the media and non-media content directly to the display) (paragraphs [0089] – [0091], Figures 12A – 12T).

Consider **claim 13**, and **as applied to claim 9 above**, Ridgley discloses a medium such that the device is a touch screen (read as the device is one of: a multi touch device) (paragraphs [0070], [0103]).

Consider **claim 14**, and **as applied to claim 9 above**, Ridgley discloses a medium such that the content can be video content (read as the media content comprises video content) (paragraphs [0089] - [0094], Figures 12A – 12T).

Consider **claim 15**, and **as applied to claim 9 above**, Ridgley discloses a medium such that the size of the different content can be altered (read as scaling the media content prior to sending the media content to the display) (paragraph [0077]).

Consider **claim 16**, Ridgley discloses an apparatus (paragraphs [0012], [0013]), comprising:

a structured hierarchy of information, which contains layers, each corresponding to different items for display, which are all parts of the user interface (read as means for constructing a data structure having a hierarchy of layers for storing media and non-media content associated with the user interface to be displayed on a display of the device) (paragraphs [0022] – [0024], [0062] – [0064], Figures 1 – 4);

each layer of the hierarchy being associated with a content portion of the user interface, which can correspond to various types of information, including text images, video, etc. (read as means for traversing layers of the hierarchy of the data structure to determine whether each layer of the data structure is associated with media or non-media) (paragraphs [0062] – [0064], [0089] – [0093], Figures 11A – 11E);

the different content types being stored in different locations within the hierarchy (read as means for storing media content in a first memory location, means for storing non-media content in a second memory location) (paragraphs [0062] - [0064], [0121] - [0124], Figure 11A);

the user interface and display containing the content from the different layers of the hierarchy (read as means for compositing the media and non-media content from the first and second memory locations and means for displaying the composited media and non-media content representing the user interface on the display of the device) (paragraphs [0050], [0051], [0061], [0062], [0097], Figures 12A – 12T).

Consider **claim 17**, and **as applied to claim 16 above**, Ridgley discloses an apparatus such that separate layers of the hierarchy can be associated with video content (read as means for detaching any layer associated with media content from the data structure) (paragraphs [0091] - [0093], Figures 12A – 12T).

Consider **claim 18**, and **as applied to claim 16 above**, Ridgley discloses an apparatus such that the different content pieces from the hierarchy are directly outputted on the display (read as means for retrieving the media content from the first memory location, means for retrieving the non-media content from the second memory location, and means for scanning the media and non-media content directly to the display) (paragraphs [0089] – [0091], Figures 12A – 12T).

Consider **claim 20**, and **as applied to claim 17 above**, Ridgley discloses an apparatus such that the size of the different content can be altered (read as means for



scaling the media content prior to sending the media content to the display) (paragraph [0077]).

Consider **claim 21**, Ridgley discloses a device (paragraphs [0012], [0013]), comprising:

a user directly interacting with and entering information into the system (read as an input panel which is configured to receive user input) (paragraphs [0022] - [0024]);

a display which can display all the information in the hierarchy (read as a display device integrated with the input panel, the display device configured to display media and non-media content at the same time) (Figures 12A – 12T);

a structured hierarchy of information, which contains layers, each corresponding to different items for display, which are all parts of the user interface (read as a central processing unit coupled to the input panel, the processor being configured to execute one or more programs in order to construct a data structure having a hierarchy of layers) (paragraphs [0022] – [0024], [0062] – [0064], Figures 1 – 4);

each layer of the hierarchy being associated with a content portion of the user interface, which can correspond to various types of information, including text images, video, etc. (read as with each layer associated with media or non-media content, based on at least the user input) (paragraphs [0062] – [0064], [0089] – [0093], Figures 11A – 11E);

the different content types being stored in different locations within the hierarchy (read as a memory coupled to the processor, the memory being configured to store the

media content in a first memory location and the non-media content in a second memory location) (paragraphs [0062] - [0064], [0121] - [0124], Figure 11A);

the user interface and display containing the content from the different layers of the hierarchy (read as wherein the media content and the non-media content are to be composited to represent a user interface to be displayed on the display device) (paragraphs [0050], [0051], [0061], [0062], [0097], Figures 12A – 12T).

Consider **claim 22**, and **as applied to claim 21 above**, Ridgley discloses a device such that the user interface and display contain the content from the different layers of the hierarchy (read as the processor is further configured to composite the media and non-media content for display on the display device) (paragraphs [0050], [0051], [0061], [0062], [0097], Figures 12A – 12T).

Consider **claim 23**, and **as applied to claim 21 above**, Ridgley discloses a device such that the user interface and display contain the content from the different layers of the hierarchy (read as a graphics processing unit coupled to the memory, the graphics processing unit configured to receive instructions indicating the locations of the media and non-media content in the memory) (paragraphs [0050], [0051], [0061], [0062], [0097], Figures 12A – 12T).

Consider **claim 24**, and **as applied to claim 23 above**, Ridgley discloses a device such that the user interface and display contain the content from the different layers of the hierarchy (read as the graphics processing unit is further configured to composite the media and non-media content for display on the display device) (paragraphs [0050], [0051], [0061], [0062], [0097], Figures 12A – 12T).

Consider **claim 25**, and **as applied to claim 21 above**, Ridgley discloses a device such that the device is a touch screen (read as the device is one of: a multi touch device) (paragraphs [0070], [0103]).

***Claim Rejections - 35 USC § 103***

04. 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.

05. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

06. **Claims 4, 5, 12, and 19** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Ridgley et al. (US PGPub 2003/0160832)**, hereinafter 'Ridgley', in view of **Cristofalo et al. (US PGPub 2002/0194589)**, hereinafter 'Cristofalo'.

Consider **claim 4**, and **as applied to claim 3 above**, Ridgley discloses a method of displaying content, but does not specifically mention a specific frame rate associated with the media content.

In the same field of endeavor Cristofalo discloses a method, such that media content can be thirty frames per second (read as the media content is scanned to the display at a rate of substantially thirty frames per second) (paragraphs [0012], [0026]).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the media frame rate taught by Cristofalo into the user interface content displaying method taught by Ridgley for the purpose of displaying the media to the user at a certain display rate.

Consider **claim 5**, and **as applied to claim 3 above**, Ridgley discloses a method of displaying content, but does not specifically mention a specific frame rate associated with the media content.

In the same field of endeavor Cristofalo discloses a method, such that media content can be one frame per second (read as the media content is scanned to the display at a rate of substantially one frame per second) (paragraphs [0012], [0026]). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the media frame rate taught by Cristofalo into the user interface content displaying method taught by Ridgley for the purpose of displaying the media to the user at a certain display rate.

Consider **claim 12**, and **as applied to claim 9 above**, Ridgley discloses a medium for displaying content, but does not specifically mention a specific frame rate associated with the media content.

In the same field of endeavor Cristofalo discloses a medium, such that media content can be thirty frames per second (read as the media content is scanned to the display at a rate of substantially thirty frames per second) (paragraphs [0012], [0026]).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the media frame rate taught by Cristofalo into the user interface content displaying medium taught by Ridgley for the purpose of displaying the media to the user at a certain display rate.

Consider **claim 19**, and **as applied to claim 18 above**, Ridgley discloses an apparatus for displaying content, but does not specifically mention a specific frame rate associated with the media content.

In the same field of endeavor Cristofalo discloses an apparatus, such that media content can be thirty frames per second (read as the media content is scanned to the display at a rate of substantially thirty frames per second) (paragraphs [0012], [0026]).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the media frame rate taught by Cristofalo into the user interface content displaying apparatus taught by Ridgley for the purpose of displaying the media to the user at a certain display rate.

### ***Response to Arguments***

07. Applicant's arguments with respect to claims 1 – 25 have been considered, but are moot in view of the new ground(s) of rejection.

Applicant argues that all the claims, as amended, contain statutory embodiments and are therefore statutory under 35 USC § 101. Examiner respectfully agrees and has dropped all pending 101 rejections. With respect to claims 1 – 8, the claims now recite a method which contains a device which contains and display. These claims are therefore statutory in that they are tied to a particular machine or manufacture. With respect to claims 9 – 15, the claims now recite a machine readable *storage* medium. In view of the specification, these claims are now limited to tangible embodiments. With respect to claims 16 – 20, the claims now recite an apparatus, which is drafted with *means for* language, and now contains a device with a display, as well as a processor and memory. These are considered statutory embodiments under 35 USC § 101.

### ***Conclusion***

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

a) Baldwin, Amanda K. et al.	US PGPub	2004/0021698
b) David, Paul C. et al.	US Patent	7,088,374
c) Butlin, Stefan Geoffrey et al.	US PGPub	2007/0288856
d) Fang, Nicholas J. et al.	US PGPub	2008/0034029
e) Guido, Patrick Rocco et al.	US Patent	7,337,412

09. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). 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 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 date of this final action.

10. Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

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

**Hand-delivered responses** should be brought to

Customer Service Window  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314

Art Unit: 2156

11. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Christopher Raab whose telephone number is (571) 270-1090. The Examiner can normally be reached on Monday-Friday from 8:30am to 6:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Pierre Vital can be reached on (571) 272-4215. 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) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Christopher Raab  
C.R./cr  
June 14, 2009

/Pierre M. Vital/  
Supervisory Patent Examiner, Art Unit 2156



<b>Notice of References Cited</b>	Application/Control No. 11/620,720	Applicant(s)/Patent Under Reexamination HARPER ET AL.	
	Examiner Christopher J. Raab	Art Unit 2156	Page 1 of 1

**U.S. PATENT DOCUMENTS**

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
*	A US-2003/0160832	08-2003	Ridgley et al.	345/854
*	B US-2004/0021698	02-2004	Baldwin et al.	345/853
*	C US-7,088,374	08-2006	David et al.	345/619
*	D US-2007/0288856	12-2007	Butlin et al.	715/762
*	E US-2008/0034029	02-2008	Fang et al.	709/203
*	F US-7,337,412	02-2008	Guido et al.	715/853
	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**

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	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.

## Electronic Patent Application Fee Transmittal

<b>Application Number:</b>	11620717			
<b>Filing Date:</b>	07-Jan-2007			
<b>Title of Invention:</b>	Application Programming Interfaces for Scrolling Operations			
<b>First Named Inventor/Applicant Name:</b>	Andrew Platzer			
<b>Filer:</b>	Jeremy A. Schweigert/Leslie Rogan			
<b>Attorney Docket Number:</b>	04860.P4895			
Filed as Large Entity				
<b>Utility under 35 USC 111(a) Filing Fees</b>				
<b>Description</b>	<b>Fee Code</b>	<b>Quantity</b>	<b>Amount</b>	<b>Sub-Total in USD(\$)</b>
<b>Basic Filing:</b>				
<b>Pages:</b>				
<b>Claims:</b>				
<b>Miscellaneous-Filing:</b>				
<b>Petition:</b>				
<b>Patent-Appeals-and-Interference:</b>				
<b>Post-Allowance-and-Post-Issuance:</b>				
<b>Extension-of-Time:</b>				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
<b>Miscellaneous:</b>				
Submission- Information Disclosure Stmt	1806	1	180	180
<b>Total in USD (\$)</b>				<b>180</b>

## Electronic Acknowledgement Receipt

<b>EFS ID:</b>	6256677
<b>Application Number:</b>	11620717
<b>International Application Number:</b>	
<b>Confirmation Number:</b>	9801
<b>Title of Invention:</b>	Application Programming Interfaces for Scrolling Operations
<b>First Named Inventor/Applicant Name:</b>	Andrew Platzer
<b>Customer Number:</b>	45217
<b>Filer:</b>	Jeremy A. Schweigert/Leslie Rogan
<b>Filer Authorized By:</b>	Jeremy A. Schweigert
<b>Attorney Docket Number:</b>	04860.P4895
<b>Receipt Date:</b>	13-OCT-2009
<b>Filing Date:</b>	07-JAN-2007
<b>Time Stamp:</b>	20:19:46
<b>Application Type:</b>	Utility under 35 USC 111(a)

### Payment information:

Submitted with Payment	yes
Payment Type	Deposit Account
Payment was successfully received in RAM	\$180
RAM confirmation Number	6413
Deposit Account	022666
Authorized User	

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

### File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Filed (SB/08)	4860P4895_IDS_and_1449.pdf	132629	no	4
			65567b7393872fc1d71ce400bc1dae01f99d96f1		
<b>Warnings:</b>					
<b>Information:</b>					
This is not an USPTO supplied IDS fillable form					
2	NPL Documents	EP1517228.pdf	840085	no	20
			04b5f11d56eb6c0eacac8ba7427b17e00104cdc		
<b>Warnings:</b>					
<b>Information:</b>					
3	NPL Documents	P4895PCT_ISR.pdf	722976	no	14
			22a71a12d5bc80ec859674d00fad205b47683d25		
<b>Warnings:</b>					
<b>Information:</b>					
4	NPL Documents	P5040PCT_ISR.pdf	701315	no	12
			0361d348e9b79c75056ab5fb802a6fc933cba0f5		
<b>Warnings:</b>					
<b>Information:</b>					
5	NPL Documents	P5054_OA_mailed_4-1-09.pdf	243439	no	8
			0e67920fc5018894a55e7c334a0e7e1b0e957e0f		
<b>Warnings:</b>					
<b>Information:</b>					
6	NPL Documents	P5054PCT_ISR.pdf	791626	no	15
			62b04748334998aa828751673b41d22abf3ee28e		
<b>Warnings:</b>					
<b>Information:</b>					
7	NPL Documents	P5060_OA_mailed_4-1-09.pdf	230935	no	8
			9ae8440ab7b955906221c69d029895b47b10f936		
<b>Warnings:</b>					
<b>Information:</b>					

8	NPL Documents	P5060PCT_ISR.pdf	492813	no	10
			523d14d63d771b1431844daea55c049b96e6af8		
<b>Warnings:</b>					
<b>Information:</b>					
9	NPL Documents	P5061_OA_mailed_12-23-08.pdf	616303	no	18
			8612539e79c821a29a1a54b6887149e35918725c		
<b>Warnings:</b>					
<b>Information:</b>					
10	NPL Documents	P5083PCT_ISR.pdf	775520	no	16
			379afe49c5ab8da3be5d743eca549d300f9e2ad4		
<b>Warnings:</b>					
<b>Information:</b>					
11	NPL Documents	WO-2006067711.pdf	1203315	no	27
			bca7050981157475f6aaa9410f3adefebd45417		
<b>Warnings:</b>					
<b>Information:</b>					
12	NPL Documents	P5061_FinalOA_mailed_6-23-09.pdf	591299	no	17
			2484ef490602ead10f947430e557647e64692a79		
<b>Warnings:</b>					
<b>Information:</b>					
13	Fee Worksheet (PTO-875)	fee-info.pdf	29983	no	2
			dd833919412653ace3be0d1057b01214379e9458		
<b>Warnings:</b>					
<b>Information:</b>					
<b>Total Files Size (in bytes):</b>			7372238		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

**New Applications Under 35 U.S.C. 111**

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

**National Stage of an International Application under 35 U.S.C. 371**

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

**New International Application Filed with the USPTO as a Receiving Office**

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Substitute for form 1449A/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> <i>(Use as many sheets as necessary)</i>	<i>Complete if Known</i>	
	<b>Application Number</b>	11/620,717
	<b>Filing Date</b>	January 7, 2007
	<b>First Named Inventor</b>	Platzer, Andrew
	<b>Group Art Unit</b>	2179
	<b>Examiner Name</b>	Bautista, Xiomara
Sheet 1 of 2	Attorney Docket No: 4860P4895	

US PATENT DOCUMENTS					
Examiner Initial *	Cite No <sup>1</sup>	USP Document Number	Publication or Issue Date MM-DD-YYYY	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		US-20010045949	11/29/2001	Chithambaram, Nemmara , et al.	
		US-20020194589	12/19/2002	Cristofalo, Michael , et al.	
		US-2003/0095096	05/22/2003	Robbin, et al.	
		US-2003/0132959	07/17/2003	Simister, J. B., et al.	
		US-20030122787	07/03/2003	Zimmerman, John , et al.	
		US-20030160832	08/28/2003	Ridgley, Brad , et al.	
		US-20030174149	09/18/2003	Fujisaki, Hitomi , et al.	
		US-2004/0224638	11/11/2004	Fadell, Anthony M., et al.	
		US-20040021676	02/05/2004	Chen, Hung-Ming , et al.	
		US-20040021698	02/05/2004	Baldwin, Amanda K., et al.	
		US-20040100479	05/27/2004	Nakano, Masao , et al.	
		US-20040215643	10/28/2004	Brechner, Eric L., et al.	
		US-20040222992	11/11/2004	Calkins, Matt , et al.	
		US-2005/0088443	04/28/2005	Blanco, Leonardo , et al.	
		US-20050193015	09/01/2005	Logston, Gary L., et al.	
		US-2006/0190833	08/24/2006	SanGiovanni, John , et al.	
		US-20070075965	04/05/2007	Huppi, et al.	
		US-20070174257	07/26/2007	Howard, Bruce T.	
		US-20070185876	08/09/2007	Mendis, Venura C., et al.	
		US-20070288856	12/13/2007	Butlin, Stefan G., et al.	
		US-20080034029	02/07/2008	Fang, Nicholas J., et al.	
		US-5,534,893	07/09/1996	Hansen, Daniel J., et al.	
		US-5,903,902	05/11/1999	Orr, Michael B., et al.	
		US-6,486,896	11/26/2002	Ubillos, Randall H.	
		US-6,741,996	05/25/2004	Brechner, Eric L., et al.	
		US-6,839,721	01/04/2005	Schwols, Keith	
		US-6,903,927	06/07/2005	Anlauff, Marcus	
		US-6,958,749	10/25/2005	Matsushita, Nobuyuki , et al.	
		US-7,009,626	03/07/2006	Anwar, Majid	
		US-7,088,374	08/08/2006	David, Paul C., et al.	
		US-7,117,453	10/03/2006	Drucker, Steven M., et al.	
		US-7,173,623	02/06/2007	Calkins, Matt , et al.	
		US-7,337,412	02/26/2008	Guido, Patrick R., et al.	
		US-7,346,850	03/18/2008	Swartz, Gregory J., et al.	

EXAMINER

DATE CONSIDERED

Based on PTO/SB/08A(09-06) - Substitute Disclosure Statement Form (PTO-1449) as modified by BSTZ 03/26/07  
 \* 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. 1 Applicant's unique citation designation number (optional) 2 Applicant is to place a check mark here if English language Translation is attached



Substitute for form 1449A/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> <i>(Use as many sheets as necessary)</i>	<i>Complete if Known</i>	
	<b>Application Number</b>	11/620,717
	<b>Filing Date</b>	January 7, 2007
	<b>First Named Inventor</b>	Platzer, Andrew
	<b>Group Art Unit</b>	2179
	<b>Examiner Name</b>	Bautista, Xiomara
Sheet 2 of 2	Attorney Docket No: 4860P4895	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No <sup>1</sup>	Foreign Patent Document Country Code/Number/Kind Code (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>2</sup>
		EP-1517228	03/23/2005	Hill, Douglas B., et al.		
		WO-2006/067711	06/29/2006	Holtman, Koen J.		

OTHER DOCUMENTS -- NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		OFFICE ACTION, U.S. Ser. No. 11/620,723, mailed April 1, 2009, 8 pages.,	
		OFFICE ACTION, U.S. Ser. No. 11/620,709, mailed April 1, 2009, 8 pages.,	
		OFFICE ACTION, U.S. Ser. No. 11/620,720, mailed June 23, 2009, 17 pages.	
		OFFICE ACTION, U.S. Ser. No. 11/620,720, mailed December 23, 2008, 18 pages.,	
		PCT International Search Report and Written Opinion for PCT International Appln. No. US2008/000058, mailed 31 July 2008 (10 pages).,	
		PCT International Search Report and Written Opinion for PCT International Appln. No. US2008/000089, mailed 6 April 2008 (14 pages).,	
		PCT International Search Report and Written Opinion for PCT International Appln. No. PCT/US2008/000103, mailed 3 June 2008 (15 pages).,	
		PCT International Search Report and Written Opinion for PCT International Appln. No. PCT/US2008/000069, mailed 2 May 2008 (16 pages).,	
		PCT International Search Report and Written Opinion for PCT International Appln. No. PCT/US2008/000060, mailed 22 April 2008 (12 pages).,	

EXAMINER

DATE CONSIDERED

Based on PTO/SB/08A(09-06) - Substitute Disclosure Statement Form (PTO-1449) as modified by BSTZ 03/26/07  
 \* 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. <sup>1</sup> Applicant's unique citation designation number (optional) <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached



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www.uspto.gov

Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.
11/620,717 01/07/2007 Andrew Platzer 04860.P4895 9801

45217 7590 12/29/2009
APPLE INC./BSTZ
BLAKELY SOKOLOFF TAYLOR & ZAFMAN LLP
1279 OAKMEAD PARKWAY
SUNNYVALE, CA 94085-4040

EXAMINER

BAUTISTA, XIOMARA L

ART UNIT PAPER NUMBER

2179

MAIL DATE DELIVERY MODE

12/29/2009

PAPER

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

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 11/620,717	<b>Applicant(s)</b> PLATZER ET AL.	
	<b>Examiner</b> X. L. Bautista	<b>Art Unit</b> 2179	

-- 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) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, 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 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 08 October 2009.
- 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) 1-95 is/are pending in the application.  
4a) Of the above claim(s) 15-88 is/are withdrawn from consideration.
- 5)  Claim(s) \_\_\_\_\_ is/are allowed.
- 6)  Claim(s) 1-14 and 89-95 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 checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/13/2009</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Allowable Subject Matter*

1. The indicated allowability of claims 1-7 is withdrawn in view of the newly discovered reference(s) to Lii (US 7,576,732 B2) and Hollemans et al (2007/0252821 A1). Rejections based on the newly cited reference(s) follow.

### *Claim Rejections - 35 USC § 101*

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. **Claims 89-95** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 89 recites the limitation "an environment with user interface software".

These claims do not truly fit any of the four statutory classes of invention, "process, machine, manufacture, or composition matter." They are not even held upon a computer-readable medium, as discussed in the Guidelines for examination, 1995. The claims recite nothing more than information, having some potential use to a computer capable of reading and interpreting them, in a manner analogous to the information content of printed matter, long held to be non-statutory.

### *Claim Rejections - 35 USC § 103*

4. 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. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. **Claim 1, 6-8, 13, 14, 89, 94, and 95** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Lii** (US 7,576,732 B2) and **Holleman et al** (2007/0252821 A1).

Claims 1, 8, and 89:

**Lii** discloses a scroll control method using a touchpad wherein a user can slide his fingers to trigger a scroll function by which the movement of the user's finger causes a corresponding scroll control of the window (col. 2, lines 32-44). **Lii** teaches that the scroll is started/stopped in relation to the user input (col. 2, lines 45-61).

**Lii** does not teach using the user's finger to invoke a gesture call to change the size of an object or view. However, **Holleman** discloses a system and method for

detecting at least two finger input on a touch screen of a display (abstract). Hollemans discloses invoking a gesture operation and issuing a gesture call based on invoking the gesture operation (par. 0007). Hollemans discloses responding to the gesture call by either rotating a selected item (par. 0023, 0037) or zooming an area (par. 0025, 0032). Therefore, it would have been obvious to one ordinarily skilled in the art at the time the invention was made to modify Lii's invention to include Hollemans' teaching of scaling an object or view when detecting a finger input because it simply facilitates the user's interaction with the computer device.

Claims 6, 13, and 94:

Hollemans teaches rotating an object or view in response to a gesture call (par. 0008, 0023).

Claims 7, 14, and 95:

Lii (col. 1, lines 11-13) and Hollemans (par. 0038) teach that the invention relates to touch screen displays used computer devices such as portable devices.

7. **Claims 2-5, 9-12, and 90-93** are rejected under 35 U.S.C. 103(a) as being unpatentable over Lii/Hollemans and **Ullmann et al** (6,677,965 B1).

Claims 2, 9, and 90:

See claim 1. Lii/Hollemans does not teach rubberbanding a scrolling region by a predetermined maximum displacement. However, **Ullmann** discloses a rubber band variable rate GUI control for use in conjunction with GUI controls, such as sliders, scroll

bars, etc. (abstract). Ullmann teaches rubberbanding a scrolling region (col. 5, lines 35-67; col. 6, lines 1-5; col. 8, lines 20-40). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Lii/Holleman's invention to include Ullmann's teaching or using rubber band control because, as Ullmann says, this control allows for intuitive variable-rate control of common GUI control types, and the rate variation indication is easily recognizable and enhances the efficiency and intuitiveness of the control object.

Claims 3, 4, 10, 11, 91, and 92:

See claim 2. Ullmann teaches scroll indicators (figs. 3a-5).

Claims 5, 12, and 93:

See claim 2. Ullmann teaches that a user may place the pointer or cursor over a GUI control, selecting and dragging away from the control, and a virtual rubber band extending between the pointer and the GUI control is displayed (abstract; col. 5, lines 44-47).

***Conclusion***

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

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to X. L. Bautista whose telephone number is (571) 272-

4132. The examiner can normally be reached on Monday-Thursday 8:00AM-6:00PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Weilun Lo can be reached on (571) 272-4847. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

10. 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). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/X. L. Bautista/  
Primary Examiner, Art Unit 2179

21 December 2009



<b>Index of Claims</b>  	<b>Application/Control No.</b>  11620717	<b>Applicant(s)/Patent Under Reexamination</b>  PLATZER ET AL.
	<b>Examiner</b>  X. L. Bautista	<b>Art Unit</b>  2179


✓	<b>Rejected</b>
=	<b>Allowed</b>

-	<b>Cancelled</b>
÷	<b>Restricted</b>

N	<b>Non-Elected</b>
I	<b>Interference</b>

A	<b>Appeal</b>
O	<b>Objected</b>

<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			
CLAIM		DATE							
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	36	+	N						

<b>Index of Claims</b>  	<b>Application/Control No.</b>  11620717	<b>Applicant(s)/Patent Under Reexamination</b>  PLATZER ET AL.
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<b><i>Index of Claims</i></b>  	<b>Application/Control No.</b>  11620717	<b>Applicant(s)/Patent Under Reexamination</b>  PLATZER ET AL.
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✓	<b>Rejected</b>
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N	<b>Non-Elected</b>
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A	<b>Appeal</b>
O	<b>Objected</b>

<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			
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	90		✓						
	91		✓						
	92		✓						
	93		✓						
	94		✓						
	95		✓						

<b>Search Notes</b>  	<b>Application/Control No.</b>  11620717	<b>Applicant(s)/Patent Under Reexamination</b>  PLATZER ET AL.
	<b>Examiner</b>  X. L Bautista	<b>Art Unit</b>  2179

<b>SEARCHED</b>			
<b>Class</b>	<b>Subclass</b>	<b>Date</b>	<b>Examiner</b>
715	764,765,784,786,788,800,864,866,973,974	12/03/2009	XB
345	156,157,169,173	12/03/2009	XB

<b>SEARCH NOTES</b>			
<b>Search Notes</b>		<b>Date</b>	<b>Examiner</b>
EAST Search		12/03/2009	XB

<b>INTERFERENCE SEARCH</b>			
<b>Class</b>	<b>Subclass</b>	<b>Date</b>	<b>Examiner</b>

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## EAST Search History

## EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	78	(gestur\$ touch\$ tap tapping finger multifinger multitouch multipoint) same (scroll\$ same (rubber or rubberband\$))	US-PGPUB; USPAT	OR	ON	2009/12/03 10:41
L23	1037	((gestur\$ touch\$ tap tapping or ((two twice dual double plural plurality multiple multi) near6 (point region zone area) or finger multifinger multitouch multipoint) near20 (elastic or elasticity or elastically or rubber or rubberband\$ or (rubber adj1 band\$) or flexible or flexibility or deform or deformed or deforming or deformation or stress or stressed or stretch or stretchy or expand or expanded or expanding or expandable or expansion or stretchable or stretchability or tensile or tension or tensibility or extensibility or rubbery or springy or springiness or bouncy or rebounding or resilient or resilience or adapt or adapted or adaptable or adjust or adjusted or adjusting or adjustable or justify or justified or justifying or compress or compressed or compressing or compressible or compressive or compressively or contract or contracted or contracting or contractable or contraction)) and (scroll\$ near20 (elastic or elasticity or elastically or rubber or rubberband\$ or (rubber adj1 band\$) or flexible or flexibility or deform or deformed or deforming or deformation or stress or stressed or stretch or stretchy or expand or expanded or expanding or expandable or expansion or stretchable or stretchability or tensile or tension or tensibility or extensibility or rubbery or springy or springiness or bouncy or rebounding or resilient or resilience or adapt or adapted or adaptable or adjust or adjusted or adjusting or adjustable or justify or justified or justifying or compress or compressed or compressing or compressible or compressive or compressively or contract or contracted or contracting or contractable or contraction))	US-PGPUB; USPAT	OR	ON	2009/12/03 11:05
L24	17748	((715/764,765,784,786,788,800,864,866,973,974) or (345/156,157,169,173)).CCLS.	US-PGPUB; USPAT	OR	OFF	2009/12/03 11:18

L25	289	23 and 24	US-PGPUB; USPAT	OR	ON	2009/12/03 11:19
L27	130	23 and (gestur\$3 or touch\$3) and ((multifinger or ((two twice dual double plural plurality multiple multi) near6 (point region zone area touch\$3 tap\$4 finger)) or multitouch or multipoint) near10 (elastic or elasticity or elastically or rubber or rubberband\$3 or (rubber adj1 band \$3) or flexible or flexibility or deform or deformed or deforming or deformation or stress or stressed or stretch or stretchy or expand or expanded or expanding or expandable or expansion or stretchable or stretchability or tensile or tension or tensibility or extensibility or rubbery or springy or springiness or bouncy or rebounding or resilient or resilience or adapt or adapted or adaptable or adjust or adjusted or adjusting or adjustable or justify or justified or justifying or compress or compressed or compressing or compressible or compressive or compressively or contract or contracted or contracting or contractable or contraction)) and (scroll\$3 near10 (elastic or elasticity or elastically or rubber or rubberband\$3 or (rubber adj1 band\$3) or flexible or flexibility or deform or deformed or deforming or deformation or stress or stressed or stretch or stretchy or expand or expanded or expanding or expandable or expansion or stretchable or stretchability or tensile or tension or tensibility or extensibility or rubbery or springy or springiness or bouncy or rebounding or resilient or resilience or adapt or adapted or adaptable or adjust or adjusted or adjusting or adjustable or justify or justified or justifying or compress or compressed or compressing or compressible or compressive or compressively or contract or contracted or contracting or contractable or contraction)) and ((gestur\$3 or touch\$3 or multifinger or ((two twice dual double plural plurality multiple multi) near6 (point region zone area touch\$3 tap\$4 finger)) or multitouch or multipoint) near15 scroll\$3)	US-PGPUB; USPAT	OR	ON	2009/12/03 11:22
S45	6554	(gestur\$3 touch\$3) near20 ((two plural plurality multiple) near6 (point region zone area))	US-PGPUB; USPAT	OR	ON	2009/12/02 16:24
S46	235	S45 and ((gestur\$3 touch\$3) near20 zoom\$3)	US-PGPUB; USPAT	OR	ON	2009/12/02 16:25

S47	108	S46 and ((gestur\$3 touch\$3) near20 rotat\$4)	US-PGPUB; USPAT	OR	ON	2009/12/02 16:25
S48	34	("20010045949"   "20020194589"   "20030095096"   "20030122787"   "20030132959"   "20030160832"   "20030174149"   "20040021676"   "20040021698"   "20040100479"   "20040215643"   "20040222992"   "20040224638"   "20050088443"   "20050193015"   "20060190833"   "20070075965"   "20070174257"   "20070185876"   "20070288856"   "20080034029"   "5534893"   "5903902"   "6486896"   "6741996"   "6839721"   "6903927"   "6958749"   "7009626"   "7088374"   "7117453"   "7173623"   "7337412"   "7346850").PN.	US-PGPUB; USPAT	OR	ON	2009/12/02 16:49
S49	6	S48 and ((gestur\$3 touch\$3) same ((two plural plurality multiple) near6 (point region zone area)))	US-PGPUB; USPAT	OR	ON	2009/12/02 16:52
S50	6928	(gestur\$3 touch\$3) near20 ((two twice dual double plural plurality multiple multi) near6 (point region zone area))	US-PGPUB; USPAT	OR	ON	2009/12/02 17:01
S51	3334	S50 and ((gestur\$3 touch\$3) near12 (zoom\$3 rotat\$3 input\$4))	US-PGPUB; USPAT	OR	ON	2009/12/02 17:02
S52	17696	((715/764,765,784,786,788,800,864,866,973,974) or (345/156,157,169,173)).CCLS.	US-PGPUB; USPAT	OR	OFF	2009/12/02 17:03
S53	5984	((gestur\$3 touch\$3 tap tapping) near10 ((two twice dual double plural plurality multiple multi) near3 (point region zone area)))	US-PGPUB; USPAT	OR	ON	2009/12/02 17:04
S54	2770	S53 and ((gestur\$3 touch\$3 tap tapping) near12 input\$4)	US-PGPUB; USPAT	OR	ON	2009/12/02 17:05
S55	381	S54 and ((gestur\$3 touch\$3 tap tapping) near12 (zoom\$3 rotat\$3))	US-PGPUB; USPAT	OR	ON	2009/12/02 17:05
S56	160	S54 and ((gestur\$3 touch\$3 tap tapping) near12 zoom\$3)	US-PGPUB; USPAT	OR	ON	2009/12/02 17:06

S57	85	S56 and ((gestur\$3 touch\$3 tap tapping) near12 rotat\$3)	US-PGPUB; USPAT	OR	ON	2009/12/02 17:06
S58	49	S52 and S57	US-PGPUB; USPAT	OR	ON	2009/12/02 17:07
S59	1756	S52 and ((gestur\$3 touch\$3 tap tapping) near20 (zoom\$3 magnif\$8 ((chang\$3 modif\$6 alter increas\$3 enlarg\$6) near5 (screen view window frame)) resiz\$4 rescal\$4 scale\$1 scaling))	US-PGPUB; USPAT	OR	ON	2009/12/02 17:17
S60	422	S59 and ((gestur\$3 touch\$3 tap tapping) near20 ((two twice dual double plural plurality multiple multi) near3 (point region zone area)))	US-PGPUB; USPAT	OR	ON	2009/12/02 17:18
S61	362	S60 and ((gestur\$3 touch\$3 tap tapping) near8 input\$3)	US-PGPUB; USPAT	OR	ON	2009/12/02 17:19
S62	115	S61 and ((gestur\$3 touch\$3 tap tapping) near12 rotat\$3)	US-PGPUB; USPAT	OR	ON	2009/12/02 17:19
S63	63	S47 not S49 not S58	US-PGPUB; USPAT	OR	ON	2009/12/02 17:25
S64	44763	(display window screen view) near12 scroll\$3	US-PGPUB; USPAT	OR	ON	2009/12/02 18:34
S65	23614	S64 and (((device computer terminal apparatus machine) near10 (portable small (multi adj1 touch) multitouch mobile wireless)) or ((cell cellular) adj2 (phone telephone)) cellphone)	US-PGPUB; USPAT	OR	ON	2009/12/02 18:34
S66	2216	S65 and (event near5 (object item element))	US-PGPUB; USPAT	OR	ON	2009/12/02 18:34
S67	1299	S66 and (event near12 (input (user adj2 input) entry interact\$3))	US-PGPUB; USPAT	OR	ON	2009/12/02 18:34
S68	266	S67 and (event near12 scroll\$3)	US-PGPUB; USPAT	OR	ON	2009/12/02 18:34



S69	17	S68 and (event near12 gestur\$3)	US-PGPUB; USPAT	OR	ON	2009/12/02 18:34
S70	12	S69 and (scroll\$3 near12 position\$3)	US-PGPUB; USPAT	OR	ON	2009/12/02 18:34
S71	7	S70 and ((display window screen view) near12 (rescal\$3 resiz\$3 ((chang\$3 alter\$3) near5 (scale size) scaled scaling))	US-PGPUB; USPAT	OR	ON	2009/12/02 18:34
S72	5	S71 and (rubberband\$3)	US-PGPUB; USPAT	OR	ON	2009/12/02 18:34
S73	5	S72 and (edge border frame)	US-PGPUB; USPAT	OR	ON	2009/12/02 18:34
S74	5	S73 and (scroll\$3 near15 (indicator indicat\$4))	US-PGPUB; USPAT	OR	ON	2009/12/02 18:34
S75	5	S74 and (event near12 drag\$5)	US-PGPUB; USPAT	OR	ON	2009/12/02 18:34
S76	5	S75 and (rotat\$4)	US-PGPUB; USPAT	OR	ON	2009/12/02 18:34
S77	2	S71 not S76	US-PGPUB; USPAT	OR	ON	2009/12/02 18:34
S78	1	("6677965").PN.	US-PGPUB; USPAT	OR	OFF	2009/12/02 18:34

S79	1	S78 and ((scroll\$3 slider) near20 (rubberband\$3 (rubber adj1 band\$3) elastic or elasticity or elastically or flexible or flexibility or deform or deformed or deforming or deformation or stress or stressed or stretch or stretchy or expand or expanded or expanding or expandable or expansion or stretchable or stretchability or tensile or tension or tensibility or extensibility or rubbery or springy or springiness or bouncy or rebounding or resilient or resilience or adapt or adapted or adaptable or adjust or adjusted or adjusting or adjustable or justify or justified or justifying or compress or compressed or compressing or compressible or compressive or compressively or contract or contracted or contracting or contractable or contraction))	US-PGPUB; USPAT	OR	ON	2009/12/02 18:34
S80	0	S79 and (event near20 (scroll\$4 slid\$3 gestur\$3 drag\$4 rotat\$4))	US-PGPUB; USPAT	OR	ON	2009/12/02 18:34
S81	1	S79 and (scroll\$4 slid\$3 gestur\$3 drag\$4 rotat\$4)	US-PGPUB; USPAT	OR	ON	2009/12/02 18:34
S82	1	S81 and (edge border frame)	US-PGPUB; USPAT	OR	ON	2009/12/02 18:34
S83	1	S82 and (scroll\$3 near20 (indicator indicat\$4 mark\$3 object sign symbol point position))	US-PGPUB; USPAT	OR	ON	2009/12/02 18:34
S84	35163	((scroll\$3 slider) near20 (rubberband\$3 (rubber adj1 band\$3) elastic or elasticity or elastically or flexible or flexibility or deform or deformed or deforming or deformation or stress or stressed or stretch or stretchy or expand or expanded or expanding or expandable or expansion or stretchable or stretchability or tensile or tension or tensibility or extensibility or rubbery or springy or springiness or bouncy or rebounding or resilient or resilience or adapt or adapted or adaptable or adjust or adjusted or adjusting or adjustable or justify or justified or justifying or compress or compressed or compressing or compressible or compressive or compressively or contract or contracted or contracting or contractable or contraction))	US-PGPUB; USPAT	OR	ON	2009/12/02 18:34
S85	216	S84 and gestur\$3 and drag\$4 and rotat\$4	US-PGPUB; USPAT	OR	ON	2009/12/02 18:34

S86	207	S85 and (edge border frame)	US-PGPUB; USPAT	OR	ON	2009/12/02 18:34
S87	150	S86 and ((scroll\$3 slid\$3) near20 (indicator indicat\$4 mark\$3 object sign symbol point position))	US-PGPUB; USPAT	OR	ON	2009/12/02 18:34
S88	133	S87 and (((device computer terminal apparatus machine) near10 (portable small (multi adj1 touch) multitouch mobile wireless)) or ((cell cellular) adj2 (phone telephone)) cellphone)	US-PGPUB; USPAT	OR	ON	2009/12/02 18:34
S89	128	S88 and ((display window screen view) near12 (scroll\$3 slider))	US-PGPUB; USPAT	OR	ON	2009/12/02 18:34
S90	75	S89 and ((scroll\$3 slider) near12 (point position\$3))	US-PGPUB; USPAT	OR	ON	2009/12/02 18:34
S91	40	S90 and event	US-PGPUB; USPAT	OR	ON	2009/12/02 18:34
S92	22	S91 and ((display window screen view) near12 (rescal\$3 resiz\$3 ((chang\$3 alter\$3) near5 (scale size)) scaled scaling))	US-PGPUB; USPAT	OR	ON	2009/12/02 18:34
S93	17696	((715/764,765,784,786,788,800,864,866,973,974) or (345/156,157,169,173)).CCLS.	US-PGPUB; USPAT	OR	OFF	2009/12/02 18:34
S94	937	S93 and ((scroll\$3 slider) near20 (rubberband\$3 (rubber adj1 band\$3) elastic or elasticity or elastically or flexible or flexibility or deform or deformed or deforming or deformation or stress or stressed or stretch or stretchy or expand or expanded or expanding or expandable or expansion or stretchable or stretchability or tensile or tension or tensibility or extensibility or rubbery or springy or springiness or bouncy or rebounding or resilient or resilience or adapt or adapted or adaptable or adjust or adjusted or adjusting or adjustable or justify or justified or justifying or compress or compressed or compressing or compressible or compressive or compressively or contract or contracted or contracting or contractable or contraction))	US-PGPUB; USPAT	OR	ON	2009/12/02 18:34

S95	95	S94 and gestur\$3 and drag\$4 and rotat\$4	US-PGPUB; USPAT	OR	ON	2009/12/02 18:34
S96	91	S95 and ((scroll\$3 slid\$3) near20 (indicator indicat\$4 mark\$3 object element item sign symbol knob point))	US-PGPUB; USPAT	OR	ON	2009/12/02 18:34
S97	42	S96 and ((scroll\$3 slider) near20 (point position\$3))	US-PGPUB; USPAT	OR	ON	2009/12/02 18:34
S98	32	S97 not S71 not S78 not S92	US-PGPUB; USPAT	OR	ON	2009/12/02 18:34
S99	1391	((plurality plural multiple multi) adj5 (point input)) and (scroll\$3 slider) and (gestur\$3)	US-PGPUB; USPAT	OR	ON	2009/12/02 18:34
S100	380	S99 and ((display window screen view) near12 rotat\$3)	US-PGPUB; USPAT	OR	ON	2009/12/02 18:34
S101	172	S100 and (((scroll\$3 slid\$3) near15 (indicator indicat\$4 mark\$3 object element item sign symbol)) same (window screen display view))	US-PGPUB; USPAT	OR	ON	2009/12/02 18:34
S102	1	("20080168384").PN.	US-PGPUB; USPAT	OR	OFF	2009/12/02 18:34
S103	1	S102 and (machine adj2 (readable medium media instruction))	US-PGPUB; USPAT	OR	ON	2009/12/02 18:34
S104	56	S101 and ((event gesture input (user adj2 input) entry interact\$3) same ((display window screen view) near12 (rescal\$3 resiz\$3 ((chang\$3 alter\$3) near5 (scale size) scale scaled scaling)))	US-PGPUB; USPAT	OR	ON	2009/12/02 18:34
S105	22	S104 and (gesture near20 ((display window screen view) near12 (rescal\$3 resiz\$3 ((chang\$3 alter\$3) near5 (scale size) scale scaled scaling)))	US-PGPUB; USPAT	OR	ON	2009/12/02 18:34
S106	1	("20070252821").PN.	US-PGPUB; USPAT	OR	OFF	2009/12/02 18:39