Exhibit 57

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	Ording
U.S. Patent No.:	7,469,381
Issued:	December 23, 2008
Group Art Unit:	2174
Serial No:	11/956,969
Examiner:	B. Pesin
Filed:	December 14, 2007
For:	LIST SCROLLING AND DOCUMENT TRANSLATION, SCALING, AND ROTATION ON A TOUCH-SCREEN DISPLAY
Attorney Docket No.	0919/01028

April 28, 2010

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Commissioner for Patents
P.O. Box 1450
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Sir:

REQUEST FOR REEXAMINATION

Reexamination of United States Patent 7,469,381 (hereinafter, "the '381 patent"), which issued December 23, 2008 to Ording is requested under 35 U.S.C. §§ 302-307, and under 37 C.F.R. § 1.510. This patent is still in force.[1] A copy of the patent in accordance with 37 C.F.R. § 1.510(b)(4) is submitted herewith as Exhibit A. Related continuation applications are pending[2].

I. Claims for which Reexamination is Requested

The '381 patent describes a computer-implemented method according to which an electronic document displayed on a touch screen may be translated to display different portions of the document, and if an edge of the document is reached while translating, an area beyond the edge of

[1] Indeed, a counterclaim for alleged infringement of the '381 patent has been filed in the U.S. District Court for the District of Delaware, *Nokia Corp. v. Apple Inc.*, Case No. 1:09-cv-00791-GMS. That litigation is in its early stages and no discovery regarding the '381 patent has taken place. If the litigation proceeds, third party requester expects there will be a challenge to the validity of the '381 patent therein.

[2] Application Serial Nos. 12/270,810 filed on 11-13-2008, 12/270,812 filed on 11-13-2008, 12/270,815 filed on 11-13-2008, 12/270,805 filed on 11-13-2008, and 12/270,807 filed on 11-13-2008.

the document is displayed and then no longer displayed, in the particular manner claimed.

Reexamination is requested of all Claims 1-20 of the '381 patent.

II. Statement of Substantial New Questions of Patentability

A. The Subject Matter of Claim 1-20

Claims 1-20 recite:

1. A computer-implemented method, comprising:

a device with a touch screen display: displaying a first portion of an electronic document;

detecting a movement of an object on or near the touch screen display;

in response to detecting the movement, translating the electronic document displayed on the touch screen display in a first direction to display a second portion of the electronic document, wherein the second portion is different from the first portion;

in response to an edge of the electronic document being reached while translating the electronic document in the first direction while the object is still detected on or near the touch screen display: displaying an area beyond the edge of the document, and displaying a third portion of the electronic document, wherein the third portion is smaller than the first portion; and in response to detecting that the object is no longer on or near the touch screen display, translating the electronic document in a second direction until the area beyond the edge of the electronic document is no longer displayed to display a fourth portion of the electronic document, wherein the fourth portion is different from the first portion.

2. The computer-implemented method of claim 1, wherein the first portion of the electronic document, the second portion of the electronic document, the third portion of the electronic document, and the fourth portion of the electronic document are displayed at the same magnification.

3. The computer-implemented method of claim 1, wherein the movement of the object is on the touch screen display.

4. The computer-implemented method of claim 1, wherein the object is a finger.

5. The computer-implemented method of claim 1, wherein the first direction is a vertical direction, a horizontal direction, or a diagonal direction.

6. The computer-implemented method of claim 1, wherein the electronic document is a web page.

7. The computer-implemented method of claim 1, wherein the electronic document is a digital image.

8. The computer-implemented method of claim 1, wherein the electronic document is a word processing, spreadsheet, email or presentation document.

9. The computer-implemented method of claim 1, wherein the electronic document includes a list of items.

10. The computer-implemented method of claim 1, wherein the second direction is opposite the first direction.

11. The computer-implemented method of claim 1, wherein translating in the first direction prior to reaching an edge of the document has an associated speed of translation that corresponds to a speed of movement of the object.

12. The computer-implemented method of claim 1, wherein translating in the first direction is in accordance with a simulation of an equation of motion having friction.

13. The computer-implemented method of claim 1, wherein the area beyond the edge of the document is black, gray, a solid color, or white.

14. The computer-implemented method of claim 1, wherein the area beyond the edge of the document is visually distinct from the document.

15. The computer-implemented method of claim 1, wherein translating the document in the second direction is a damped motion.

16. The computer-implemented method of claim 1, wherein changing from translating in the first direction to translating in the second direction until the area beyond the edge of the document is no longer displayed makes the edge of the electronic document appear to be elastically attached to an edge of the touch screen display or to an edge displayed on the touch screen display.

17. The computer-implemented method of claim 1, wherein translating in the first direction prior to reaching the edge of the electronic document has a first associated translating distance that corresponds to a distance of movement of the object prior to reaching the edge of the electronic document; and wherein displaying an area beyond the edge of the electronic document comprises translating the electronic document in the first direction for a second associated translating distance, wherein the second associated translating distance is less than a distance of movement of the object after reaching the edge of the electronic document.

18. The computer-implemented method of claim 1, wherein translating in the first direction prior to reaching the edge of the electronic document has a first associated translating speed that

corresponds to a speed of movement of the object, and wherein displaying an area beyond the edge of the electronic document comprises translating the electronic document in the first direction at a second associated translating speed, wherein the second associated translating speed is slower than the first associated translating speed.

19. A device, comprising:

a touch screen display;

one or more processors;

memory; and

one or more programs, wherein the one or more programs are stored in the memory and configured to be executed by the one or more processors, the programs including:

instructions for displaying a first portion of an electronic document;

instructions for detecting a movement of an object on or near the touch screen display;

instructions for translating the electronic document displayed on the touch screen display in a first direction to display a second portion of the electronic document, wherein the second portion is different from the first portion, in response to detecting the movement;

instructions for displaying an area beyond an edge of the electronic document and displaying a third portion of the electronic document, wherein the third portion is smaller than the first portion, in response to the edge of the electronic document being reached while translating the electronic document in the first direction while the object is still detected on or near the touch screen display; and

instructions for translating the electronic document in a second direction until the area beyond the edge of the electronic document is no longer displayed to display a fourth portion of the electronic document, wherein the fourth portion is different from the first portion, in response to detecting that the object is no longer on or near the touch screen display.

20. A computer readable storage medium having stored therein instructions, which when executed by a device with a touch screen display, cause the device to:

display a first portion of an electronic document;

detect a movement of an object on or near the touch screen display;

translate the electronic document displayed on the touch screen display in a first direction to display a second portion of the electronic document, wherein the second portion is different from the first portion, in response to detecting the movement;

display an area beyond an edge of the electronic document and display a third portion of the electronic document, wherein the third portion is smaller than the first portion, if the edge of the electronic document is reached while translating the electronic document in the first direction while the object is still detected on or near the touch screen display; and

translate the electronic document in a second direction until the area beyond the edge of the electronic document is no longer displayed to display a fourth portion of the electronic document, wherein the fourth portion is different from the first portion, in response to detecting that the object is no longer on or near the touch screen display.

In reexamination, as with any proceeding before the U.S. Patent and Trademark Office ("USPTO"), the terms and phrases of a claim are given their broadest reasonable construction. *E.g., In re American Academy of Science Tech Center*, 367 F.3d 1359, 70 USPQ2d 1827, 1830 (Fed. Cir. 2004) ("During examination, 'claims ... are to be given their broadest reasonable interpretation . . .." (*quoting In re Bond*, 910 F.2d 831, 833, 15 USPQ2d 1566 (Fed. Cir. 1990))).

B. Newly cited Prior Art

The '381 patent matured from a U.S. patent application filed December 14, 2007, and claims priority to the filing dates of U.S. Provisional Patent Application Nos. 60/937,993, "Portable Multifunction Device," filed Jun. 29, 2007; 60/946,971, "List Scrolling and Document Translation, Scaling, and Rotation on a Touch-Screen Display," filed Jun. 28, 2007; 60/945,858, "List Scrolling and Document Translation on a Touch-Screen Display," filed Jun. 22, 2007; 60/879,469, "Portable Multifunction Device," filed Jan. 8, 2007; 60/883,801, "List Scrolling and Document Translation on a Touch-Screen Display," filed Jan. 7, 2007; and 60/879,253, "Portable Multifunction Device," filed Jan. 7, 2007. Therefore, the "Critical Date" for prior art relevant to the claims of the '381 patent, under 35 U.S.C. § 102(b) is no earlier than January 7, 2006, if one of the provisional applications filed on that date fully supports the claims. Third party requester does not reach this question as the prior art asserted herein was published prior to January 7, 2006.

The requester respectfully submits that the prior art, under §§ 102(b) taught or suggested the subject matter of the claims of the '381 patent. More particularly, the requester submits that:

- C. Forlines, C. Shen, B. Buxton, "Glimpse: A Novel Input Model for Multi-Level Devices, CHI '05 (Conference on Human Factors in Computing Systems) extended abstracts on Human factors in computing systems (Association for Computing Machinery 2005) pages 1375-78 ("the Glimpse article") (Exhibit B);

in view of :

- M. Millhollon, K. Murray, Microsoft Office Word 2003 Inside Out (Microsoft Press 2004) pages 13-16, 93, 762-65, 802-04 ("Inside Out") (Exhibit C);

and for some proposed grounds of rejection:

- U.S. Patent Application Publication No. 2005/0195154 to Robbins et al. ("the Robbins application") (Exhibit D);
- U.S. Patent No. 6,690,387 to Zimmerman et al. ("the Zimmerman patent") (Exhibit E).

rendered the subject matter of the claims of the '381 patent obvious to one of ordinary skill in the relevant art.

Furthermore, the requester notes that the Glimpse Article, Inside Out, and the Robbins application were not listed on the face of the '381 patent. Consequently, the Glimpse Article, Inside Out, and the Robbins application are newly applied and unquestionably raise new questions of patentability.

C. Basis for Substantial New Questions of Patentability

Claims 1-20 of the '381 patent do not patentably distinguish over combinations of the above-noted newly cited references. In summary, the Glimpse article discloses a computer-implemented navigation method for a Tablet PC touch screen in which a user can, by finger or stylus, without

disengagement from the screen, (a) view an initial (first) portion of an electronic document, (b) translate the document from the first portion to display a different second portion, which can be selected to be any portion of the document, (c) store the second portion in an undo stack, (d) translate the document to display a third portion, and (e) release contact with the screen, whereupon the system automatically restores the view stored in the undo stack, that is, the second portion, which is different from the initial view. (Exhibit B, pp. 1375-78).

Inside Out discloses features of Microsoft Word 2003, including the well-known Print Layout View of electronic documents, which it recommends for Tablet PCs. In Print Layout View, upon scrolling to an edge of the document, an area beyond the edge is displayed in a manner visually contrasting with the document. (Exhibit C, pp. 762-65).

The Robbins application discloses moving from one view to another on a touch screen device by "spring-loaded" animation, and animating back to the initial view upon release, which implies retracing the original motion, as in stretching a spring and then allowing it to retract in the opposite direction. (Exhibit D, ¶¶ 9, 71, 75, 86).

The Zimmerman patent discloses that the panning speed of an electronic document (a list is a disclosed example) corresponds to the speed of motion of a user's finger on the touch screen while the user maintains contact with the screen. When the user breaks contact, the list continues translating but the speed then decreases at a controlled rate until it reaches zero or a predetermined minimum speed (Exhibit E, Abstract; col. 4 ln. 7-37), a motion those skilled in the art would have recognized as a damped motion. (The '381 patent specification refers at column 20, lines 37-46 to: "simulation of a physical device having friction, i.e., damped motion . . . .")

Thus, the Glimpse article discloses or would have rendered obvious each element of Claims 1- 20 of the '381 patent, implemented on a touch screen device, except displaying an area beyond an edge of the document in response to reaching the edge, damping translation speed in certain

circumstances, and certain additional dependent claim limitations discussed below. Inside Out discloses displaying an area beyond an edge of the document in response to reaching the edge while translating the document, on a touch screen device. One skilled in the art would have found a clear motivation to modify the Glimpse article with the teachings of Inside Out, since both references refer to using their teachings on a TabletPC, a touch screen device. The result of applying the described teaching from Inside Out to the Glimpse article's method was predictable, namely, on translating and reaching an edge of a document (for example by a user's finger), an area beyond the edge would be displayed until the user or the system translated the document to display a portion away from the edge. The Robbins application's spring-loaded return animation provides further motivation to reverse direction when returning to a previously viewed portion of the document on disengaging the finger from the screen.

Modifying the Glimpse article method in view of Inside Out would have been obvious because it would have been merely the application of a known technique (displaying an area beyond the edge when the edge is reached during translation) to a known method (the Glimpse method that meets all the other claim limitations but fails to specify what should happen on reaching an edge) to achieve a predictable result. Further, one skilled in the art had only a finite number of choices of known techniques for displaying a document upon reaching an edge of the document. One could simply stop the document, display some sort of separate flag or visual to indicate the edge had been reached, or display an area beyond the edge, as taught by Inside Out and well known in the use of Microsoft Word's print layout view. It would have been obvious to try the Inside Out approach when reaching the edge of a document in a document display and navigation system according to the Glimpse article.[3]

[3] MPEP § 2143 (D), (E) Examples of Basic Requirements of a *Prima Facie* Case of Obviousness, citing *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398, 82 USPQ2d 1385, 1395-97 (2007).

Despite the failure of the original prosecution history to explicitly disclose the examiner's reasons for rejecting the original claims, the examiner clearly considered prior art[4] that rendered unpatentable a claim requiring displaying an area beyond the edge upon translating a document to reach the edge, and, when the object is no longer detected on or near the screen, translating the document in a second direction until the area beyond the edge is no longer displayed. It is clear also from the same prior art of record that the examiner did not believe that the so-called appearance of elastic attachment of the document edge to an edge of the screen, or an edge displayed on the screen, provided patentability. The combination of the Glimpse article and Inside Out provides what apparently the examiner believed was missing in the prior art, namely, displaying: a second portion different from the first portion, a third portion smaller than the first portion, and a fourth portion different from the first portion, in combination with the other claim elements.

It would have been obvious to modify the foregoing combination of the Glimpse article and Inside Out further in view of the Zimmerman patent by incorporating Zimmerman's teaching to track finger translation speed of a digital document on a touch screen display at a speed corresponding to the speed of a finger, and then to damp the speed of translation when the finger breaks contact with the screen.

Because the Glimpse Article, Inside Out, and the Robbins application were not previously considered and are not cumulative of any reference previously considered, combination of these references necessarily raises a new, and not cumulative, question of patentability. Consequently, Reexamination of Claims 1-20 of the '381 patent must be ordered and the claims rejected.

[4] See listing of art discussed in interviews on Examiner-Initiated Interview Summaries for interviews held 6/2/2008; 6/30/2008; and 8/4/2008 in Serial No. 11/956,969.

D. Application of Prior Art References to Claims 1-20

1. Content of the Prior Art

(a) The Glimpse Article

The Glimpse article discloses panning to different portions of an electronic document using a progression of light touch to heavy touch and back again. Glimpse teaches that if a light touch is applied, a preview of a second portion of the document is displayed to the user. If the user then applies a heavy touch, the view on the screen when the heavy touch is applied becomes the new saved location. The user then returns to applying a light touch to continue previewing other portions of the document without ever breaking contact with the screen:

> We describe a technique that supports the previewing of navigation, exploration, and editing operations by providing convenient Undo for unsuccessful and/or undesirable actions on multi-level input devices such as touch screens and pen-based computers. (Abstract, p. i)
>
> Our technique would enable users to preview different magnification levels with light touch input before choosing to remain at the new level with a heavy touch or to return to a previous level by releasing. Similarly a user may click and drag using light input to pan to other portions of the document, easily able to return to their previous position. Taking a temporary glimpse at details that are too small to see clearly (in the case of zooming) or off-screen (in the case of panning) becomes a single touch operation. (p. 1377)
>
> We have used both a TabletPC and a touch sensitive DiamondTouch surface as our pressure sensitive input device. (p. 1377)
>
> As shown in Figure 3, our method replaces Figure 1's State 1 with a new state, which we call Glimpse. When an object is selected for editing through light pressure input, the system enters the Glimpse state and the current value of the property being edited is saved to memory [hereinafter Glimpse buffer] separate from the system's undo stack. This light pressure input indicates intent to edit the selected object. While the user continues to manipulate the object using light pressure input, the system responds by previewing the results of their action. (p. 1376-77)
>
> When editing is finished, the user can either reject or accept the edit by performing one of two actions. If the user lifts their finger or stylus (or otherwise releases the input), the system returns to State 0 and the edit is automatically 'undone' by retrieving the saved state. When possible ***we animate this undo graphically*** so that the action is as clear to the user as possible. If the user increases the pressure of their input past a certain threshold, the system enters State 2 and the previewed changes to the edited object becomes the object's current state. In this transition, the previously saved values of the object are pushed onto the system's undo stack. While the user remains in State 2, changes to the object are saved as

they occur. Reentering the Glimpse state from State 2 again stores the current value of the object being edited to memory. The Glimpse state previews the further change of this value, which can again be confirmed by reentering State 2. (p. 1377) (emphasis added).

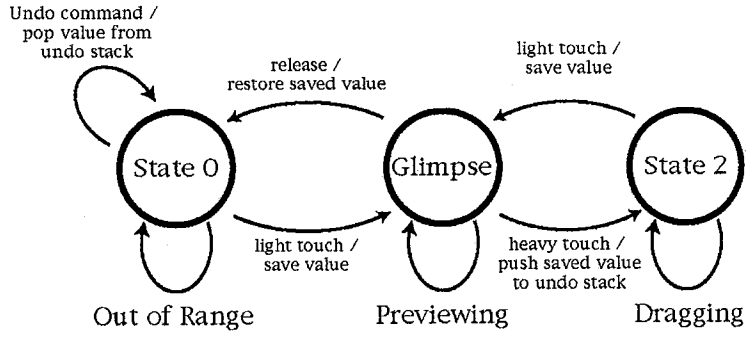


Figure 3. Glimpse enabled transition diagram for pressure sensitive direct input devices.

Glimpse discloses a user panning to display various portions of an electronic document, including a second portion, while the object is still detected on the screen with at least a light touch:

> Our technique would enable users to preview different magnification levels with light touch input before choosing to remain at the new level with a heavy touch or to return to a previous level by releasing. Similarly a user may click and drag using light input to pan to other portions of the document, easily able to return to their previous position. Taking a temporary glimpse at details that are too small to see clearly (in the case of zooming) or off-screen (in the case of panning) becomes a single touch operation. (p. 1377)

The Glimpse article teaches panning and zooming techniques for navigating an electronic document. Glimpse teaches using these features separately, allowing a user to pan to different areas of a document while maintaining the same magnification. The following passage and the foregoing passage illustrate this functionality:

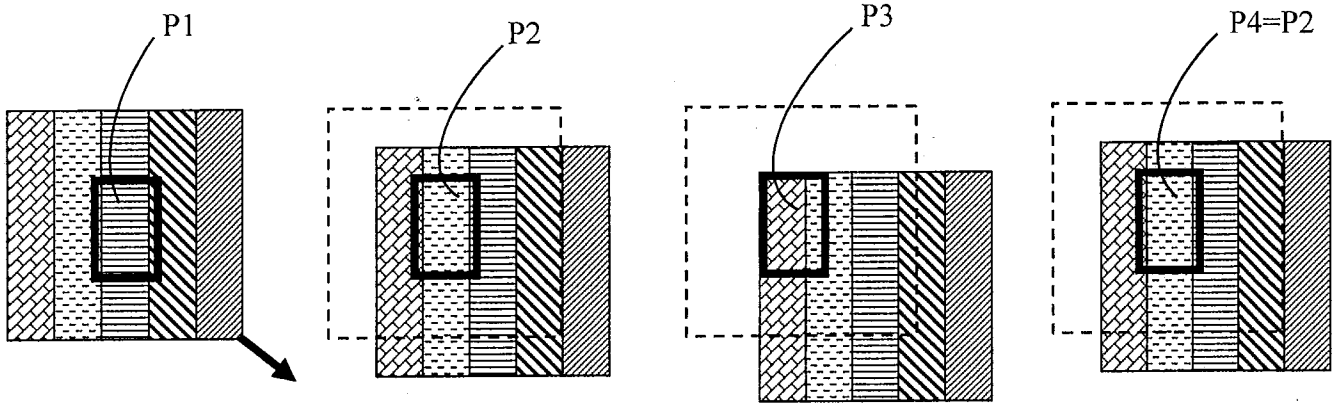
> When navigating through a dataset using a pan and zoom interface, one often wants to temporarily zoom-in in order to take a more detailed look at some portion of the data before returning to the current zoom level. Using a traditional interface, zoom-in and zoom-out are separate commands (and may require the user to traverse to a tool pallet in order to switch tools). Furthermore, if zooming does not occur in fixed increments, inaccuracies in the operation of the zoom tool can make the task of returning to an exact zoom level difficult if not impossible. Similarly, for drag-to-pan movement around a dataset, retracing one's path in order to return to a previous location can be very difficult. It is a combination of these two

difficulties that cause many users to complain that they become "lost" in the dataset when using a pan-and-zoom interface. (p. 1377).

Glimpse also teaches tracking movement of an object in contact with the pressure sensitive screen:

> Any multi-state input device that also ***provides tracking*** (explicitly, as in the case of the pop-through mouse's on-screen pointer, or implicitly, as in the case of a stylus or finger) can exploit this technique. (p. 1376) (emphasis added).

A mode of operation of the Glimpse system and method is shown in the sequence of diagrams below (provided by the third party requester). In the diagrams, the small black rectangle represents the screen of a touch screen device, held stationary by the user. The diagrams show the striped document in its entirety, although only a portion is visible on the screen. When the user drags her finger across the screen, the document "sticks" to the finger and moves in the same direction relative to the screen. The dashed box marks the initial position of the document.



Thus, when viewing an initial Portion P1 of an object such as a document as shown in diagram (a), the user could translate the document by moving a finger with a light touch on the screen (within the small black box) until a user-selected Portion P2, different from P1, would have been visible on the screen as shown in diagram (b). While viewing P2, and maintaining contact with the screen, the user could have pressed harder to move P2 from the Glimpse buffer memory into the system undo stack. Without breaking contact, the user could have lightened her touch to return to the glimpse preview mode, and continued translating the document until a third user-

selected Portion P3 would have been viewed as shown in diagram (c). Upon then sensing a breaking of contact with the screen, the system would have restored the view to that stored in the system undo stack, which in this example is P2, as shown in diagram (d). The preferred way to accomplish this "undo" in Glimpse system is to animate the return graphically.

(b) Inside Out

The Inside Out reference teaches that Microsoft Word 2003 can display a document in several different views and that print layout view is the "recommended" view for Tablet PCs running Microsoft Word 2003. (p. 764).

> If you're using a Tablet PC, you can add ink annotations directly on top of content in documents. For instance, you can circle text, draw arrows on graphics, highlight key topics, or cross out chart elements. You must be running Word 2003 on a Tablet PC to use ink annotations, and it is recommended that you work in Print Layout view for optimal results. (p. 764).

In Microsoft Word 2003's print layout view, the edge of a document and a background area beyond the edge of the document are visible. The following screenshot published in Inside Out illustrates this type of view and again highlights the integration with a Tablet PC:

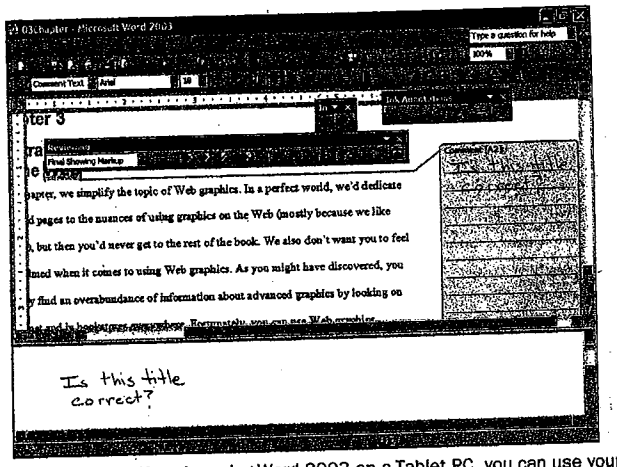


Figure 27-10. If you're using Word 2003 on a Tablet PC, you can use your tablet pen to add ink comments. After you add ink comments, others can view your comments on other types of systems.

Inside Out, p. 762.

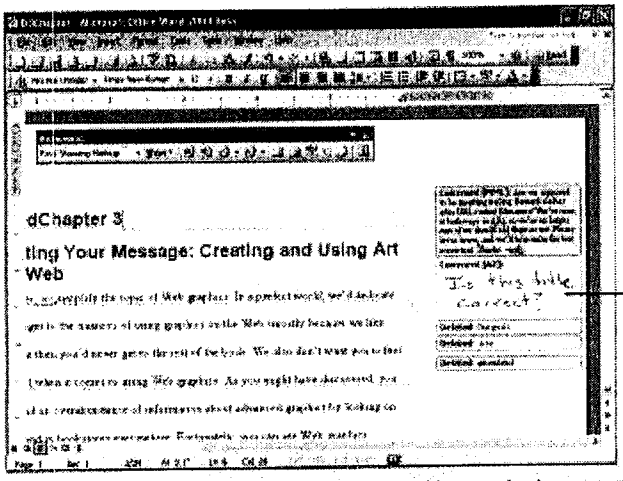


Figure 27-13. Ink comments appear alongside standard comments and tracked changes in a document's margin or Reviewing Pane. You can copy and delete ink comments, but you can't add text.

Inside Out, p. 764.

These screen shots show that in print layout view, when a background beyond the edge of a document is displayed after panning to the edge, there is less of the document on the screen (third portion) than there was before the user panned to the edge (first portion).

Inside Out also teaches that a user can zoom in on a region of the document such that the edge of the document and the area beyond the edge are not displayed on the screen initially:

> Zooming in on information: You can increase the viewing size of your document by using the Magnifier button (which displays the document at actual size) or by indicating a size in the Zoom box (either by selecting a size in the Zoom list or by typing a percentage value). To zoom in on a selected area, click the Magnifier button, and then click in the area of the document you want to examine more closely. You can use the Zoom box to further modify your view, if necessary. (p. 93).

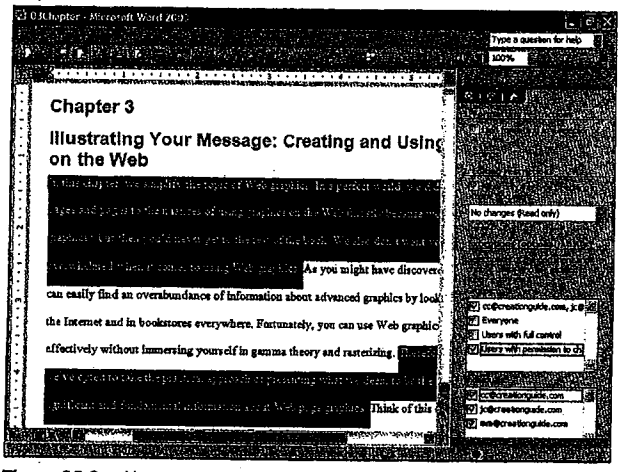


Figure 28-9. You can control the amount of editing allowed in a document by selecting areas in the document that can be edited and then assigning which users can edit which content areas.

Inside Out, p. 803.

As can be seen in Fig. 28-9, the document extends beyond the edge of the screen in every direction. Thus, the entire display is filled with the document (first portion). The user then pans in any direction to reveal other regions of the document. If the user reaches the edge of the document, the background area beyond the edge becomes visible and a smaller portion of the document (third portion) is displayed on the screen:

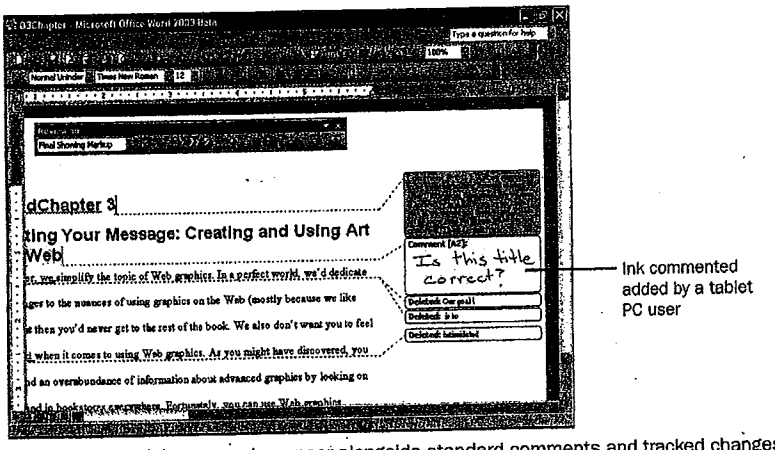


Figure 27-13. Ink comments appear alongside standard comments and tracked changes in a document's margin or Reviewing Pane. You can copy and delete ink comments, but you can't add text.

Inside Out, p. 764.

(c) The Robbins Application

The Robbins application No. 2005/0195154, published September 8, 2005, teaches panning and zooming on a portable device:

> The present invention relates to a system and/or methodology that facilitate navigating and/or browsing large information spaces on relatively small portable devices such as portable phones, PDAs and the like, for example. In particular, the system and method allow navigation of multi-resolution graphical content at multiple levels of magnification. (¶ 4).

Robbins also teaches using a touch screen as the input for the portable device:

> [T]he portable device can have a touch screen or some other type of display screen or touch pad that is sensitive to and/or receptive to a pointing device. (¶ 7; see also ¶100).

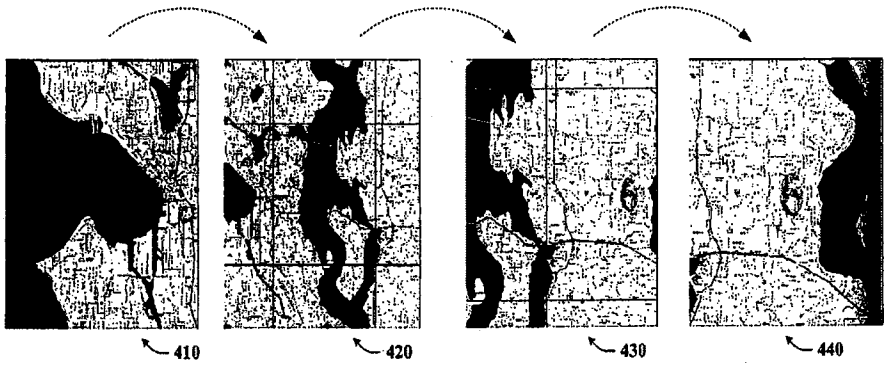
Robbins teaches "glancing" at other regions of the document and using animations to transition between regions:

> According to still another aspect of the invention, a user can "glance" at other parts of a data-set or document while browsing through such data-set on a portable device. For example, imagine that a user indicates an area of the data-set for detailed inspection. In general, this may happen via clicking on a region, selecting the name of a region from a menu or dialog, or pressing a hardware button or function key that is assigned ahead of time to a particular region. When the user wants to quickly glance at another region, the user can instruct the application to temporarily switch the view to another region by again selecting another region via the aforementioned techniques. After a time-delay or after the user releases a hardware or software button, the view quickly and smoothly (e.g., via animation) can snap back to the previous view. (¶ 9).

Robbins explains one possible animation for this "snap back," teaching that when panning from one region to another, the screen will display the first region then zoom out while simultaneously panning toward the new region to be displayed. As the screen approaches the new region, the view zooms in to align the new area with the edges of the screen. This functionality is explained in the passage and figure below:

> For example, in FIG. 4, a series of screen views of the map illustrate a ***smooth and/or animated transition by panning from sector 4 to sector 6***, the sibling view of sector 4. In particular, screen view 410 shows a zoomed in view of sector or sub-sector 4. However, when panning from sub-sector 4 to sub-sector 6, the screen view zooms out (420) and then gradually zooms in (430) as sub-sector 6 is reached. When sub-sector 6 is in "full" view to the near exclusion of other sub-sectors (enlarged sub-sector 6 takes up the display space), the sub-sector 6 appears as enlarged or zoomed in according to screen view 440 (e.g., enlarged to a similar degree as the initial focus of interest: sub-sector 4). All of these view

transitions (e.g., in, out, and same-level translation) are animated smoothly by using a simplified version of a pan-and-zoom algorithm. (¶ 75) (emphasis added).



VIEW ZOOMS OUT DURING PAN FROM ONE SIBLING VIEW (SECTOR 4) TO ANOTHER (SECTOR 6)

FIG. 4

Robbins teaches using this panning animation after a user stops glancing at a region to "snap back to the previous view." (¶ 9). This function can be provided by Robbins' system while a user is moving dynamically around a grid of information. (¶ 92).

Robbins further describes its spring-loaded glance and return function in ¶86:

> To "glance" momentarily in another direction (at a nearby view) the user presses-and-holds down on the appropriate number key. When the key is released, the view animates back to the previous view. This spring-loaded glancing can be extended to also work with child views of the current view. If the user is currently zoomed out, such that segment cues are shown for the current view's child segments, pressing and holding on the number key will temporarily zoom the view to the appropriate child view. Releasing that same key will then return to the parent view. This spring-loaded view shifting allows the user to quickly glance at other sections of the data-set without losing track of their preferred center of interest.

The animation provided in Robbins can include following a route. (¶107).

Robbins also teaches that the amount of detail displayed during the panning transition depends on the speed of the pointing device that initiated the panning:

> Turning now to FIGS. 16-24, a navigational sequence using a pointing device on a small portable device is shown, wherein each figure represents a phase in the sequence. Looking initially at FIG. 16, there is illustrated an image of a portable device 1600 displaying a

portion of a map 1610 on its screen. In general, as the speed of a pointing device increases, less detail (e.g., more of an overview) of the underlying content appears on the screen. However, at slower speeds, more detail of the underlying content is displayed. Transitions between views of the content are smooth and fluid-like rather than abrupt zoom-in and out changes. (¶ 112).

(d) The Zimmerman Patent

The Zimmerman patent discloses that the panning speed of an electronic document (a list is a disclosed example) corresponds to the speed of motion of a user's finger on the touch screen while the user maintains contact with the screen, noting that in a natural manner, the initial speed of displacement of the displayed image corresponds to the speed of motion of the finger along the screen. When the user breaks contact, the list continues translating but the speed is then slowly decreased until it reaches zero, which one skilled in the art would understand to be a damped motion. (Exhibit E, Abstract; and col. 3, ln. 45 - col. 4, ln. 37). (The '854 patent specification refers at column 20, lines 37-46 to: "simulation of a physical device having friction, i.e., damped motion" . . .).

2. Grounds for Rejection of the Claims

(a) ***First Ground for Rejection***: Claims 1-11, 13, 14, 16, 17, 19, and 20 would have been obvious over the Glimpse article in view of Inside Out.

By comparing the content of the Glimpse article and Inside Out to Claims 1-11, 13, 14, 16, 17, 19, and 20 of the '381 patent, it will become clear that to one of ordinary skill in the art the claimed subject matter would have been obvious.

Claim	**Prior Art**
1[a] A computer implemented method, comprising:	The Glimpse article discloses "multi-level input devices such as touch screens and pen-based computers." (Abstract).
1[b] at a device with a touch screen display:	Glimpse discloses "multi-level input devices such as touch screens and pen-based computers." (Abstract). Inside Out discloses a touch screen Tablet PC. (Fig. 27-10, p. 762).

1[c] displaying a first portion of an electronic document	Glimpse discloses allowing a user to pan to different portions of a document displayed on a multi-level touch screen, including the displaying of a first portion of an electronic document: Our technique would enable users to preview different magnification levels with light touch input before choosing to remain at the new level with a heavy touch or to return to a previous level by releasing. Similarly a user may click and drag using light input to ***pan to other portions of the document***, easily able to return to their previous position. Taking a temporary glimpse at details that are too small to see clearly (in the case of zooming) or off-screen (in the case of panning) becomes a single touch operation. (p. 1377)(emphasis added).
1[d] detecting a movement of an object on or near the touch screen display	Glimpse teaches detecting movement of an object on the touch screen display by using a pressure sensitive touch screen to identify multi-level input, including both light touch and heavy touch: The technique we propose provides a method for editing objects with a multi-level input device such as a pressure sensitive stylus, ***pressure sensitive touch screen***, or pop-through mouse. We have used both a TabletPC and a touch sensitive DiamondTouch [3] surface as our pressure sensitive input device. (p. 1376)(emphasis added). Glimpse also teaches tracking movement of an object in contact with the pressure sensitive screen: Any multi-state input device that also ***provides tracking*** (explicitly, as in the case of the pop-through mouse's on-screen pointer, or implicitly, as in the case of a stylus or finger) can exploit this technique. (p. 1376) (emphasis added). Inside Out discloses stylus input to a touch screen Tablet PC. (Fig. 27-10, p. 762).
1[e] in response to detecting the movement, translating the electronic document displayed on the touch screen display in a first direction to display a second portion of the electronic document, wherein the second portion is different from the first portion	Glimpse discloses panning to different portions of an electronic document using a progression of light touch to heavy touch and back again. Glimpse teaches that if a light touch is applied, a preview of a second portion of the document is displayed to the user. If the user then applies a heavy touch, the view on the screen when the heavy touch is applied becomes the new saved location. The user then returns to applying a light touch to continue previewing other portions of the document without ever breaking contact with the screen. (p. 1376-77). In addition, the 381 patent admits that the prior art teaches this

	limitation. The 381 patent teaches that only a portion of a large electronic document can be visible on the small screen of a portable electronic device at a given time. A user can pan electronic documents to display other portions on the screen: As a result of the small size of display screens on portable electronic devices and the potentially large size of electronic files, frequently only a portion of a list or of an electronic document of interest to a user can be displayed on the screen at a given time. Users thus will frequently need to scroll displayed lists or to translate displayed electronic documents. (Col. 2, ln 14-21).
1[f] in response to an edge of the electronic document being reached while translating the electronic document in the first direction while the object is still detected on or near the touch screen display: displaying an area beyond the edge of the document, and displaying a third portion of the electronic document, wherein the third portion is smaller than the first portion; and	Glimpse discloses a user panning to display various portions of an electronic document, including a second portion, while the object is still detected on the screen with at least a light touch. (p. 1376-77). To the extent displaying an area beyond the edge of a document is not explicitly or inherently disclosed by Glimpse, doing so would have been obvious to one skilled in the art in light of Glimpse, either alone, or in combination with Inside Out, which teaches continuing translation of an electronic document when an edge is reached until an area beyond the edge is displayed on a Tablet PC. (p. 764). One of ordinary skill in the art would have been motivated to combine Glimpse with Inside Out's teaching of Microsoft Word 2003 functions because Glimpse is directed to navigating, exploring, and editing electronic documents on a Tablet PC. Glimpse teaches using a Tablet PC "as our pressure sensitive input device." (p. 1377). The Inside Out reference explains that Tablet PCs can run Microsoft Word 2003. Furthermore, it would have been common sense at the time to use a Microsoft Word 2003 document on a Tablet PC, and therefore, in combination with Glimpse.
1[g] in response to detecting that the object is no longer on or near the touch screen display, translating the electronic document in a second direction until the area beyond the edge of the electronic document is no longer displayed to display a fourth portion of the electronic document, wherein the fourth portion is different from the first portion	Glimpse teaches that when contact is broken with the screen, the screen automatically pans back to the saved state of the document, which is a fourth portion that is different than the first portion. Combination of Inside Out with Glimpse as described above further includes panning beyond an edge. It would have been obvious to return by panning the document in a second direction because Glimpse teaches "animating this undo graphically" to return to the previous view. (p. 1377). Clearly, continuing in the first direction is not an operable option for accomplishing the return. Thus, Glimpse translates in another direction until the area is no longer displayed, and then may or may not continue translating, depending on the location of the saved state of the document. In either case, the claim language reads on the Glimpse process.

	If a Glimpse user has applied a heavy touch while panning around the document, the saved system undo stack (default state) is the location where the user applied the heavy touch (second portion), not the location where the user began panning with a light touch (first portion). Therefore, the restored view (fourth portion) is the same as the second portion and different from the first portion. (p. 1376-77). The view of the second portion occupies the viewing area of the screen and obscures the previously displayed area beyond the edge.
2. The computer-implemented method of claim 1, wherein the first portion of the electronic document, the second portion of the electronic document, the third portion of the electronic document, and the fourth portion of the electronic document are displayed at the same magnification.	Glimpse teaches panning and zooming techniques for navigating an electronic document. Glimpse teaches using these features separately, allowing a user to pan to different areas of a document while maintaining the same magnification. (p. 1377)
3. The computer-implemented method of claim 1, wherein the movement of the object is on the touch screen display.	Glimpse teaches tracking touch input on a pressure sensitive screen to provide previewing by changing the portion of the document viewed on the touch screen. (p. 1376-77)
4. The computer-implemented method of claim 1, wherein the object is a finger.	Glimpse discloses a pressure sensitive screen that can sense a user's finger: Any multi-state input device that also provides tracking (explicitly, as in the case of the pop-through mouse's on-screen pointer, or implicitly, as in the case of a stylus ***or finger***) can exploit this technique. (p. 1376) (emphasis added).
5. The computer-implemented method of claim 1, wherein the first direction is a vertical direction, a horizontal direction, or a diagonal direction.	Glimpse discloses panning to different portions of an electronic document without any restriction as to the direction of the panning: We describe a technique that supports the previewing of navigation, exploration, and editing operations by providing convenient Undo for unsuccessful and/or undesirable actions on multi-level input devices such as touch screens and pen-based computers. (Abstract). [A] user may click and drag using light input to pan to other portions of the document, easily able to return to their previous position. Taking a temporary glimpse at details that are too small to see clearly (in the case of zooming) or off-screen (in the case of panning) becomes a single touch operation. (p. 1377). To the extent vertical, horizontal, or diagonal tracking are not explicitly disclosed in Glimpse, they would have been obvious to

	one skilled in the art as a matter of common sense and as a finite set of options to try, each having a predictable result.
6. The computer-implemented method of claim 1, wherein the electronic document is a web page.	It would have been obvious to a skilled person to provide the functionality of Glimpse in view of Inside Out in the case of viewing a web page, as a matter of general knowledge and common practice.
7. The computer-implemented method of claim 1, wherein the electronic document is a digital image.	The electronic documents described and/or shown in the Glimpse article and Inside Out are digital images, as would have been appreciated by a skilled person.
8. The computer-implemented method of claim 1, wherein the electronic document is a word processing, spreadsheet, email or presentation document.	The Glimpse article provides a "system wide" method for systems such as Microsoft Windows OS and describes how the authors method would have been applied in the preparation of the article, obviously using a word processing program generating a word processing digital document. (p. 1375-78) Inside Out shows and describes use of the print layout view on a Tablet PC for editing a Microsoft Word digital document. (p. 764)
9. The computer-implemented method of claim 1, wherein the electronic document includes a list of items.	Glimpse discloses that it was well known in the art to navigate lists of items: Ramos, et al. [4] described a continuous pressure-sensing stylus to manipulate multi-state objects. They mapped continuous pressure to visual properties of the pointer, e.g., moving the pointer down a ***list of menu selections*** as pressure increases, or to change the appearance of objects, e.g., making objects larger and smaller based on pressure. (p. 1376) (emphasis added).
10. The computer-implemented method of claim 1, wherein the second direction is opposite the first direction.	As described above, Glimpse animates the undo operation graphically in returning to a previously viewed portion. (p. 1377). To do so involves a selection from a finite set of possible animation techniques. It would have been obvious to select return panning in the opposite direction from this finite set.
11. The computer-implemented method of claim 1, wherein translating in the first direction prior to reaching an edge of the document has an associated speed of translation that corresponds to a speed of movement of the object	The Glimpse article refers to "any multi-state input device that also provides tracking . . . as in the case of a stylus of finger . . ." (p. 1376). A skilled person would read this to mean translating a document at the same speed as a finger or stylus. It would have been obvious to use tracking in the Glimpse system as modified according to Inside Out.
13. The computer-implemented method of claim 1, wherein the area beyond the edge of the document is black, gray, a solid color, or white.	Inside Out, Fig. 27-13, shows a gray area beyond the edge of a displayed digital document on a touch screen. It would have been obvious to utilize this in modifying the Glimpse article according to Inside Out. To select another color also would have been obvious.
14. The computer-implemented method of claim 1, wherein the area beyond the	Inside Out, Fig. 27-13, shows a visually distinct area beyond the edge of a displayed digital document on a touch screen. It would

edge of the document is visually distinct from the document.	have been obvious to utilize this in modifying the Glimpse article according to Inside Out.
16. The computer-implemented method of claim 1, wherein changing from translating in the first direction to translating in the second direction until the area beyond the edge of the document is no longer displayed makes the edge of the electronic document appear to be elastically attached to an edge of the touch screen display or to an edge displayed on the touch screen display.	As shown graphically below, Glimpse allows a user to save to the system undo stack a view in which the edge of the document is even with the edge of the screen of a touch screen device. Then, when the user further translates in a preview mode to expose an area beyond the edge as would have been obvious in view of Inside Out, and then releases contact with the screen, the view "snaps" back to that stored in the undo stack, making the edge of the document appear to be elastically attached to the edge of the screen display.
17 [a] The computer-implemented method of claim 1, wherein translating in the first direction prior to reaching the edge of the electronic document has a first associated translating distance that corresponds to a distance of movement of the object prior to reaching the edge of the electronic document;	The Glimpse article references tracking of the stylus or finger object on a touch screen (p. 1376-77) and the translation distance prior to reaching an edge clearly can be large in comparison to dimensions of the screen.
17[b] and wherein displaying an area beyond the edge of the electronic document comprises translating the electronic document in the first direction for a second associated translating distance, wherein the second associated translating distance is less than a distance of movement of the object after reaching the edge of the electronic document.	Inside Out shows a small dimension of area beyond the edges, obviously often less than the distance the document has been translated before reaching the edge. (Fig. 27-13, p. 764). It would have been obvious to modify Glimpse by exposing a relatively small area beyond the edges as shown in Inside Out, where the movement required to expose that area is less than the distance the document was translated before reaching the edge.
19[a] A device, comprising:	Glimpse discloses "multi-level input devices such as touch screens and pen-based computers." (Abstract).
19[b] a touch screen display;	Glimpse discloses "multi-level input devices such as touch screens and pen-based computers." (Abstract). Inside Out discloses a touch screen Tablet PC. (Fig. 27-10, p. 762)
19[c] one or more processors; memory; and one or more programs, wherein the one or more programs are stored in the memory and configured to be executed by the one or more processors, the programs including:	Glimpse discloses "multi-level input devices such as touch screens and pen-based computers." (Abstract). Glimpse also discloses using a "Tablet PC...as our pressure sensitive input device." (p.1376) Inside Out discloses a Tablet PC. One skilled in the art would have known that these devices contain a processor, memory, and programs stored in the memory and configured to be executed by the processor.

19[d] instructions for displaying a first portion of an electronic document;	Glimpse discloses allowing a user to pan to different portions of a document displayed on a multi-level touch screen, including the displaying of a first portion of an electronic document: Our technique would enable users to preview different magnification levels with light touch input before choosing to remain at the new level with a heavy touch or to return to a previous level by releasing. Similarly a user may click and drag using light input to ***pan to other portions of the document***, easily able to return to their previous position. Taking a temporary glimpse at details that are too small to see clearly (in the case of zooming) or off-screen (in the case of panning) becomes a single touch operation. (p. 1377)(emphasis added).
19[e] instructions for detecting a movement of an object on or near the touch screen display;	Glimpse teaches detecting movement of an object on the touch screen display by viewing a pressure sensitive touch screen to identify multi-level input, including both light touch and heavy touch: The technique we propose provides a method for editing objects with a multi-level input device such as a pressure sensitive stylus, ***pressure sensitive touch screen***, or pop-through mouse. We have used both a TabletPC and a touch sensitive DiamondTouch [3] surface as our pressure sensitive input device. (p. 1376)(emphasis added). Glimpse also teaches tracking movement of an object in contact with the pressure sensitive screen: Any multi-state input device that also ***provides tracking*** (explicitly, as in the case of the pop-through mouse's on-screen pointer, or implicitly, as in the case of a stylus or finger) can exploit this technique. (p. 1376) (emphasis added). Inside Out discloses stylus input to a touch screen Tablet PC. (Fig. 27-10, p. 762)
19[f] instructions for translating the electronic document displayed on the touch screen display in a first direction to display a second portion of the electronic document, wherein the second portion is different from the first portion, in response to detecting the movement;	Glimpse discloses panning to different portions of an electronic document using a progression of light touch to heavy touch and back again. Glimpse teaches that if a light touch is applied, a preview of a second portion of the document is displayed to the user. If the user then applies a heavy touch, the view on the screen when the heavy touch is applied becomes the new saved location. The user then returns to applying a light touch to continue previewing other portions of the document without ever breaking contact with the screen. (p. 1376-77)

	In addition, the 381 patent admits that the prior art teaches this limitation. The 381 patent teaches that only a portion of a large electronic document can be visible on the small screen of a portable electronic device at a given time. A user can pan electronic documents to display other portions on the screen: > As a result of the small size of display screens on portable electronic devices and the potentially large size of electronic files, frequently only a portion of a list or of an electronic document of interest to a user can be displayed on the screen at a given time. Users thus will frequently need to scroll displayed lists or to translate displayed electronic documents. (Col. 2, ln 14-21).
19[g] instructions for displaying an area beyond an edge of the electronic document and displaying a third portion of the electronic document, wherein the third portion is smaller than the first portion, in response to the edge of the electronic document being reached while translating the electronic document in the first direction while the object is still detected on or near the touch screen display; and	Glimpse discloses a user panning to display various portions of an electronic document, including a second portion, while the object is still detected on the screen with at least a light touch. (p. 1376-77). To the extent displaying an area beyond the edge of a document is not explicitly or inherently disclosed by Glimpse, doing so would have been obvious to one skilled in the art in light of Glimpse, either alone, or in combination with Inside Out, which teaches continuing translation of an electronic document when an edge is reached until an area beyond the edge is displayed on a Tablet PC. (p. 764). One of ordinary skill in the art would have been motivated to combine Glimpse with Inside Out's teaching of Microsoft Word 2003 functions because Glimpse is directed to navigating, exploring, and editing electronic documents on a Tablet PC. Glimpse teaches using a Tablet PC "as our pressure sensitive input device." (p. 1377). The Inside Out reference explains that Tablet PCs can run Microsoft Word 2003. Furthermore, it would have been common sense at the time to use a Microsoft Word 2003 document on a Tablet PC, and therefore, in combination with Glimpse.
19[h] instructions for translating the electronic document in a second direction until the area beyond the edge of the electronic document is no longer displayed to display a fourth portion of the electronic document, wherein the fourth portion is different from the first portion, in response to detecting that the object is no longer on or near the touch screen display.	Glimpse teaches that when contact is broken with the screen, the screen automatically pans back to the saved state of the document, which is a fourth portion that is different than the first portion. Combination of Inside Out with Glimpse as described above further includes panning beyond an edge. It would have been obvious to return by panning the document in a second direction because Glimpse teaches "animating this undo graphically" to return to the previous view. (p. 1377). Continuing in the first direction is not an operable option for accomplishing the return. If a Glimpse user has applied a heavy touch while panning around the document, the saved system undo stack (default state) is the

	location where the user applied the heavy touch (second portion), not the location where the user began panning with a light touch (first portion). Therefore, the restored view (fourth portion) is the same as the second portion and different from the first portion. (p. 1376-77). The view of the second portion prior reaching an edge obscures the previously displayed area beyond the edge.
20[a] A computer readable storage medium having stored therein instructions, which when executed by a device with a touch screen display, cause the device to:	Glimpse discloses "multi-level input devices such as touch screens and pen-based computers." (Abstract). Inside Out discloses a touch screen Tablet PC. (Fig. 27-10, p. 762)
20[b] display a first portion of an electronic document;	Glimpse discloses allowing a user to pan to different portions of a document displayed on a multi-level touch screen, including the displaying of a first portion of an electronic document: Our technique would enable users to preview different magnification levels with light touch input before choosing to remain at the new level with a heavy touch or to return to a previous level by releasing. Similarly a user may click and drag using light input to ***pan to other portions of the document***, easily able to return to their previous position. Taking a temporary glimpse at details that are too small to see clearly (in the case of zooming) or off-screen (in the case of panning) becomes a single touch operation. (p. 1377)(emphasis added).
20[c] detect a movement of an object on or near the touch screen display;	Glimpse teaches detecting movement of an object on the touch screen display by using a pressure sensitive touch screen to identify multi-level input, including both light touch and heavy touch: The technique we propose provides a method for editing objects with a multi-level input device such as a pressure sensitive stylus, ***pressure sensitive touch screen***, or pop-through mouse. We have used both a TabletPC and a touch sensitive DiamondTouch [3] surface as our pressure sensitive input device. (p. 1376)(emphasis added). Glimpse also teaches tracking movement of an object in contact with the pressure sensitive screen: Any multi-state input device that also ***provides tracking*** (explicitly, as in the case of the popthrough mouse's on-screen pointer, or implicitly, as in the case of a stylus or finger) can exploit this technique. (p. 1376) (emphasis added).

	Inside Out discloses stylus input to a touch screen Tablet PC. (Fig. 27-10, p. 762)
20[d] translate the electronic document displayed on the touch screen display in a first direction to display a second portion of the electronic document, wherein the second portion is different from the first portion, in response to detecting the movement	Glimpse discloses panning to different portions of an electronic document using a progression of light touch to heavy touch and back again. Glimpse teaches that if a light touch is applied, a preview of a second portion of the document is displayed to the user. If the user then applies a heavy touch, the view on the screen when the heavy touch is applied becomes the new saved location. The user then returns to applying a light touch to continue previewing other portions of the document without ever breaking contact with the screen. (p. 1376-77) In addition, the 381 patent admits that the prior art teaches this limitation. The 381 patent teaches that only a portion of a large electronic document can be visible on the small screen of a portable electronic device at a given time. A user can pan electronic documents to display other portions on the screen: > As a result of the small size of display screens on portable electronic devices and the potentially large size of electronic files, frequently only a portion of a list or of an electronic document of interest to a user can be displayed on the screen at a given time. Users thus will frequently need to scroll displayed lists or to translate displayed electronic documents. (Col. 2, ln 14-21).
20[e] display an area beyond an edge of the electronic document and display a third portion of the electronic document, wherein the third portion is smaller than the first portion, if the edge of the electronic document is reached while translating the electronic document in the first direction while the object is still detected on or near the touch screen display; and	Glimpse discloses a user panning to display various portions of an electronic document, including a second portion, while the object is still detected on the screen with at least a light touch. (p. 1376-77). To the extent displaying an area beyond the edge of a document is not explicitly or inherently disclosed by Glimpse, doing so would have been obvious to one skilled in the art in light of Glimpse, either alone, or in combination with Inside Out, which teaches continuing translation of an electronic document when an edge is reached until an area beyond the edge is displayed on a Tablet PC. (p. 764). One of ordinary skill in the art would have been motivated to combine Glimpse with Inside Out's teaching of Microsoft Word 2003 functions because Glimpse is directed to navigating, exploring, and editing electronic documents on a Tablet PC. Glimpse teaches using a Tablet PC "as our pressure sensitive input device." (p. 1377). The Inside Out reference explains that Tablet PCs can run Microsoft Word 2003. Furthermore, it would have been common sense at the time to use a Microsoft Word 2003 document on a Tablet PC, and therefore, in combination with Glimpse.

20[f] translate the electronic document in a second direction until the area beyond the edge of the electronic document is no longer displayed to display a fourth portion of the electronic document, wherein the fourth portion is different from the first portion, in response to detecting that the object is no longer on or near the touch screen display.	Glimpse teaches that when contact is broken with the screen, the screen automatically pans back to the saved state of the document, which is a fourth portion that is different than the first portion. Combination of Inside Out with Glimpse as described above further includes panning beyond an edge. It would have been obvious to return by panning the document in a second direction because Glimpse teaches "animating this undo graphically" to return to the previous view. (p. 1377). Continuing in the first direction is not an operable option for accomplishing the return. If a Glimpse user has applied a heavy touch while panning around the document, the saved system undo stack (default state) is the location where the user applied the heavy touch (second portion), not the location where the user began panning with a light touch (first portion). Therefore, the restored view (fourth portion) is the same as the second portion and different from the first portion. (p. 1376-77). The view of the second portion prior reaching an edge obscures the previously displayed area beyond the edge.

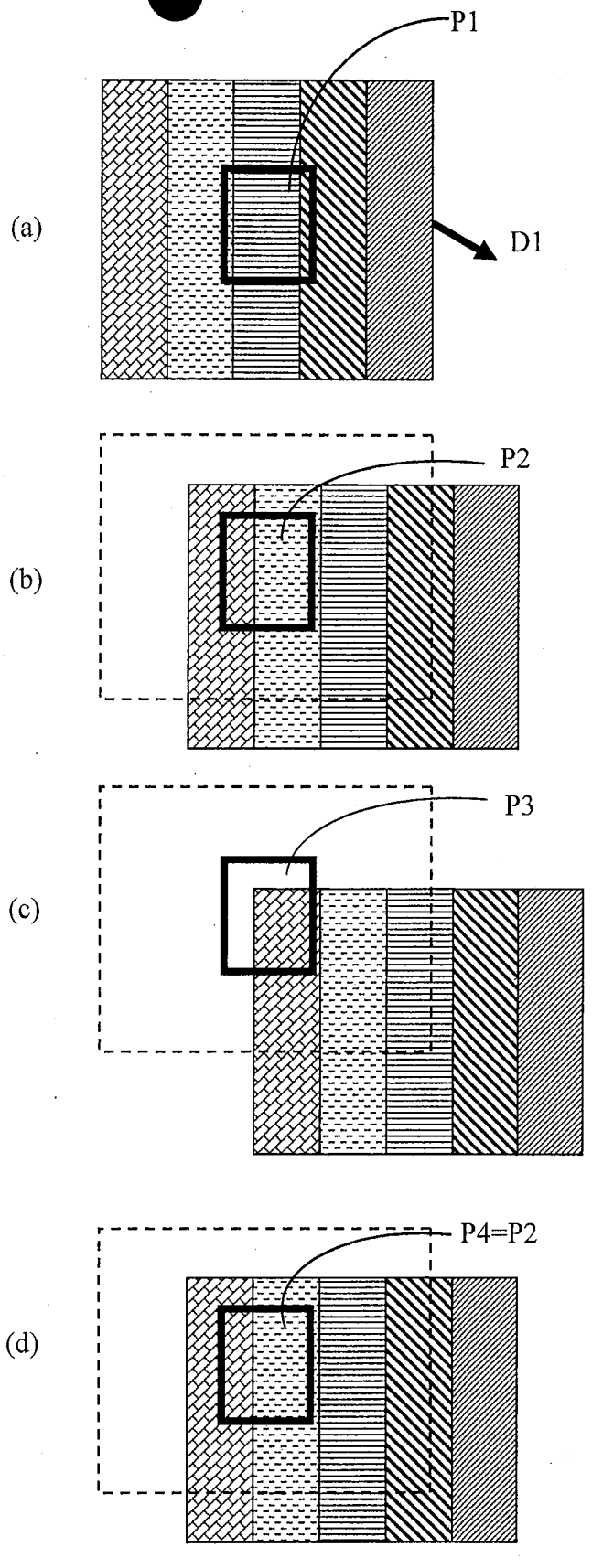
The Glimpse article discloses all of the elements of Claim 1 of the '381 patent implemented on a touch screen device except displaying an area beyond an edge of the document in response to reaching the edge. As Glimpse teaches an animated return to a previously viewed portion of a document different from the initially viewed portion, it would have been obvious for the return animation to be translating back to the previously viewed portion, which necessarily would involve movement in a different direction. Inside Out discloses displaying an area beyond an edge of the document in response to reaching the edge, on a touch screen device. One skilled in the art would have found a clear motivation to modify the Glimpse article with the teachings of Inside Out, as they both disclose using a Tablet PC as a touch screen input device for their navigating and display techniques. The result of applying the described teaching from Inside Out to the Glimpse article method was predictable, namely, on translating and reaching an edge, an area beyond the edge would be displayed until the user or the system translated the document to display a portion away from the edge. Therefore, it would have been obvious to combine these two references to obtain the invention claimed in Claim 1.

The following diagrams and caption further explain how Claim 1 reads on the Glimpse article as modified in accordance with Inside Out.

DIAGRAM: GLIMPSE+INSIDE OUT

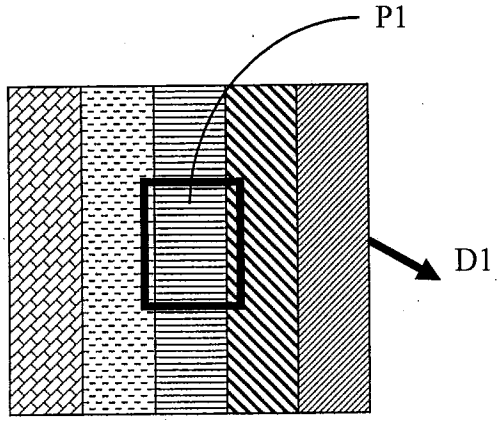
Referring to a combination of the Glimpse article and Inside Out references, the modified Glimpse system and method provide a mode of operation as shown in the sequence of diagrams to the right. In the diagrams, the small black rectangle represents the screen of a touch screen device, held stationary by the user. The diagrams show the striped document in its entirety, although only a portion is visible on the screen. When the user drags her finger across the screen, the document "sticks" to the finger and moves in the same direction. The dashed box marks the initial position of the document.

When initially viewing a Portion P1 of an object such as a document as shown in diagram (a), the user could translate the document by moving a finger with a light touch on the screen until a Portion P2 would have been visible on the screen as shown in diagram (b). P2 is different from P1. While viewing P2, and maintaining contact with the screen, the user could have pressed harder to move P2 from the Glimpse buffer memory into the system undo stack. Without breaking contact, the user could have lightened her touch to return to the glimpse preview mode, and continued translating the document until an edge would have been exposed plus an area beyond the edge in accordance with the teaching of Inside Out, as shown in diagram (c), where the portion of the document being viewed, P3, is smaller than P1. Upon then sensing a breaking of contact with the screen, the system would have restored the view stored in the system undo stack, that is P2. The "fourth portion" of claim 1 reads on this final view P4, the same as P2, which is different from P1. The claim does not require that the fourth portion be different from the second portion.

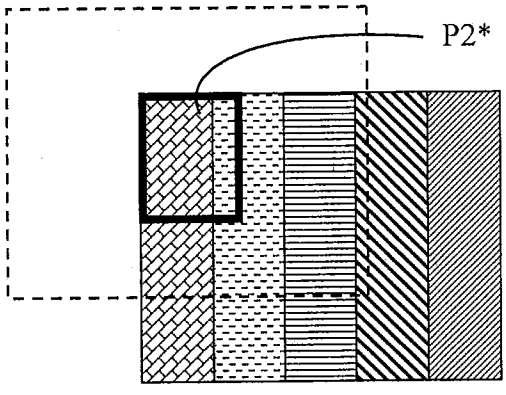


The Glimpse article also supports a mode of operation in which the user can browse in the document to a position in which the portion viewed is aligned with one or more edges of the screen, as shown in diagram (f). Then the user can press harder to store this view P2* in the system undo stack. Then, following further browsing to a position as shown in diagram (g) to view Portion P3, upon the user releasing contact, the system will animate a return to view P2*, a movement just sufficient to no longer expose the area beyond the edge of the document. This corresponds to a fourth portion P4 different from P1.

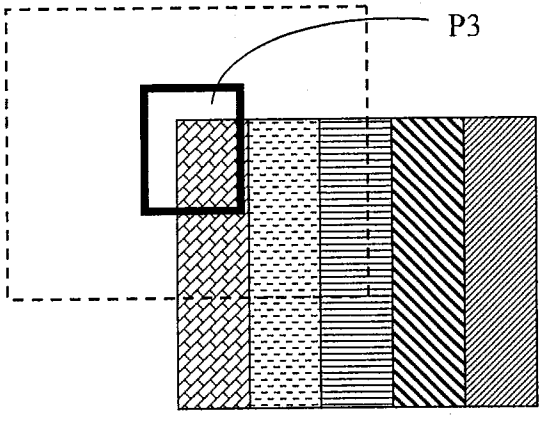
(e)



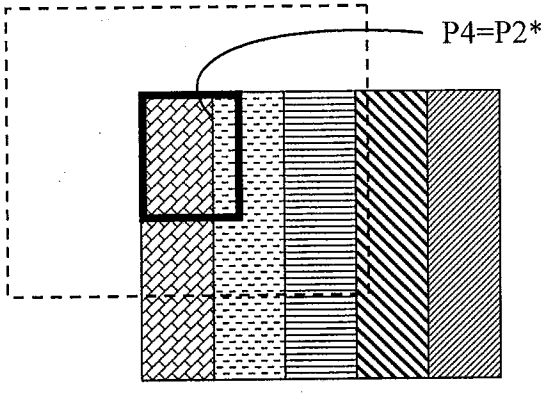
(f)



(g)



(h)



As demonstrated in the chart above, independent claims 19 and 20 are device and computer readable medium versions of claim 1, and both read on the combination of the Glimpse article and Inside Out according the same analysis applied above in connection with claim 1. Dependent claims 2-11, 13, 14, 16, and 17 would have been obvious for the reasons stated in the above claims chart for this first ground of rejection.

(b) ***Second Ground for Rejection***: Claims 1-11, 13-16, 17, 19, and 20 would have been obvious over the Glimpse article in view of Inside Out and the Robbins application.

By comparing the content of the Glimpse article, Inside Out, and the Robbins application to claims 1-11, 13-16, 17, 19, and 20 of the '381 patent, it will become clear that the claimed subject matter would have been obvious to one of ordinary skill in the art.

Claim	Prior Art
1[a] A computer implemented method, comprising:	The Glimpse article discloses "multi-level input devices such as touch screens and pen-based computers." (Abstract).
1[b] at a device with a touch screen display:	Glimpse discloses "multi-level input devices such as touch screens and pen-based computers." (Abstract). Inside Out discloses a touch screen Tablet PC. (Fig. 27-10, p. 762)
1[c] displaying a first portion of an electronic document	Glimpse discloses allowing a user to pan to different portions of a document displayed on a multi-level touch screen, including the displaying of a first portion of an electronic document: Our technique would enable users to preview different magnification levels with light touch input before choosing to remain at the new level with a heavy touch or to return to a previous level by releasing. Similarly a user may click and drag using light input to ***pan to other portions of the document***, easily able to return to their previous position. Taking a temporary glimpse at details that are too small to

Claim	Prior Art
	see clearly (in the case of zooming) or off-screen (in the case of panning) becomes a single touch operation. (p. 1377)(emphasis added).
1[d] detecting a movement of an object on or near the touch screen display	Glimpse teaches detecting movement of an object on the touch screen display by using a pressure sensitive touch screen to identify multi-level input, including both light touch and heavy touch: The technique we propose provides a method for editing objects with a multi-level input device such as a pressure sensitive stylus, ***pressure sensitive touch screen***, or popthrough mouse. We have used both a TabletPC and a touch sensitive DiamondTouch [3] surface as our pressure sensitive input device. (p. 1376)(emphasis added). Glimpse also teaches tracking movement of an object in contact with the pressure sensitive screen: Any multi-state input device that also ***provides tracking*** (explicitly, as in the case of the popthrough mouse's on-screen pointer, or implicitly, as in the case of a stylus or finger) can exploit this technique. (p. 1376) (emphasis added). Inside Out discloses stylus input to a touch screen Tablet PC. (Fig. 27-10, p. 762)
1[e] in response to detecting the movement, translating the electronic document displayed on the touch screen display in a first direction to display a second portion of the electronic document, wherein the second portion is different from the first portion	Glimpse discloses panning to different portions of an electronic document using a progression of light touch to heavy touch and back again. Glimpse teaches that if a light touch is applied, a preview of a second portion of the document is displayed to the user. If the user then applies a heavy touch, the view on the screen when the heavy touch is applied becomes the new saved location. The user then returns to applying a light touch to continue previewing other portions of the document without ever breaking contact with the screen. (p. 1376-77) In addition, the 381 patent admits that the prior art teaches this limitation. The 381 patent teaches that only a portion of a large electronic document can be visible on the small screen of a portable electronic device at a given time. A user can pan electronic documents to display other portions on the screen: As a result of the small size of display screens on portable electronic devices and the potentially large size of electronic files, frequently only a portion of a list or of an electronic document of interest to a user can be displayed on the screen

Claim	Prior Art
	at a given time. Users thus will frequently need to scroll displayed lists or to translate displayed electronic documents. (Col. 2, ln 14-21).
1[f] in response to an edge of the electronic document being reached while translating the electronic document in the first direction while the object is still detected on or near the touch screen display: displaying an area beyond the edge of the document, and displaying a third portion of the electronic document, wherein the third portion is smaller than the first portion; and	Glimpse discloses a user panning to display various portions of an electronic document, including a second portion, while the object is still detected on the screen with at least a light touch. (p. 1376-77). To the extent displaying an area beyond the edge of a document is not explicitly or inherently disclosed by Glimpse, doing so would have been obvious to one skilled in the art in light of Glimpse, either alone, or in combination with Inside Out, which teaches continuing translation of an electronic document when an edge is reached until an area beyond the edge is displayed on a Tablet PC. (p. 764). One of ordinary skill in the art would have been motivated to combine Glimpse with Inside Out's teaching of Microsoft Word 2003 functions because Glimpse is directed to navigating, exploring, and editing electronic documents on a Tablet PC. Glimpse teaches using a Tablet PC "as our pressure sensitive input device." (p. 1377). The Inside Out reference explains that Tablet PCs can run Microsoft Word 2003. Furthermore, it would have been common sense at the time to use a Microsoft Word 2003 document on a Tablet PC, and therefore, in combination with Glimpse.
1[g] in response to detecting that the object is no longer on or near the touch screen display, translating the electronic document in a second direction until the area beyond the edge of the electronic document is no longer displayed to display a fourth portion of the electronic document, wherein the fourth portion is different from the first portion	Glimpse teaches that when contact is broken with the screen, the screen automatically pans back to the saved state of the document, which is a fourth portion that is different than the first portion. Combination of Inside Out with Glimpse as described above further includes panning beyond an edge. It would have been obvious to return by panning the document in a second direction because Glimpse teaches "animating this undo graphically" to return to the previous view. (p. 1377). Continuing in the first direction is not an operable option for accomplishing the return. If a Glimpse user has applied a heavy touch while panning around the document, the saved system undo stack (default state) is the location where the user applied the heavy touch (second portion), not the location where the user began panning with a light touch (first portion). Therefore, the restored view (fourth portion) is the same as the second portion and different from the first portion. (p. 1376-77). The view of the second portion prior reaching an edge obscures the previously displayed area beyond the edge. In addition, to the extent (assuming for the sake of argument) panning (translating) in a second direction is not explicitly or

Claim	Prior Art
	inherently disclosed by Glimpse, such action would have been an obvious modification of Glimpse, as modified by Inside Out, in light of the Robbins reference. One of ordinary skill in the art would have been motivated to combine Glimpse with Robbins because both solutions are directed to the problem of navigating electronic documents by panning and zooming. Robbins teaches allowing a user to "glance" at other parts of a document with the option to easily revert back to the previous location. (¶ 9). Glimpse teaches animating a transition from the preview state to the saved state. (p. 1377). Robbins also teaches animating a transition between views while the user is panning. (¶ 75, 86). In fact, Robbins teaches using a spring-loaded panning animation after a user stops glancing at a region to "snap back to the previous view." (¶ 9, 71, 75, 86). Because Glimpse calls for animating a transition, it would have been common sense to choose a simple animation that unwinds the panning and pans back from the preview state to the saved state, as more fully disclosed in Robbins. Thus, it would have been obvious to one of ordinary skill in the art to utilize the animations of the Robbins application in implementing the Glimpse technique for undo animation, as modified by Inside Out.
2. The computer-implemented method of claim 1, wherein the first portion of the electronic document, the second portion of the electronic document, the third portion of the electronic document, and the fourth portion of the electronic document are displayed at the same magnification.	Glimpse teaches panning and zooming techniques for navigating an electronic document. Glimpse teaches using these features separately, allowing a user to pan to different areas of a document while maintaining the same magnification. (p. 1377)
3. The computer-implemented method of claim 1, wherein the movement of the object is on the touch screen display.	Glimpse teaches tracking touch input on a pressure sensitive screen to provide previewing by changing the portion of the document viewed on the touch screen. (p. 1376-77)
4. The computer-implemented method of claim 1, wherein the object is a finger.	Glimpse discloses a pressure sensitive screen that can sense a user's finger: Any multi-state input device that also provides tracking (explicitly, as in the case of the pop-through mouse's on-screen pointer, or implicitly, as in the case of a stylus ***or finger***) can exploit this technique. (p. 1376) (emphasis added).
5. The computer-implemented method of claim 1, wherein the first direction is	Glimpse discloses a pressure sensitive screen that can sense a user's finger:

Claim	Prior Art
a vertical direction, a horizontal direction, or a diagonal direction.	Any multi-state input device that also provides tracking (explicitly, as in the case of the pop-through mouse's on-screen pointer, or implicitly, as in the case of a stylus ***or finger***) can exploit this technique. (p. 1376) (emphasis added).
6. The computer-implemented method of claim 1, wherein the electronic document is a web page.	The Robbins application teaches navigating a dataset by panning and zooming. The dataset can include a webpage: Referring now to FIG. 2, there is illustrated a block diagram of another advanced navigation system 200 that facilitates the navigation of two-dimensional content space in portable devices. Before navigation (or browsing) can begin, content such as a data-set can be uploaded or accessed by the portable device. The content can include, but is not limited to, any type of document, such as pictures, calendars, images, spreadsheets, reports, maps, books, text, ***web pages***, etc. as well as their related programs or applications. (¶ 67) (emphasis added). It would have been obvious to utilize the combined teachings as described above for web pages, in view of Robbins.
7. The computer-implemented method of claim 1, wherein the electronic document is a digital image.	Robbins teaches navigating a dataset by panning and zooming. The dataset can include an image: Referring now to FIG. 2, there is illustrated a block diagram of another advanced navigation system 200 that facilitates the navigation of two-dimensional content space in portable devices. Before navigation (or browsing) can begin, content such as a data-set can be uploaded or accessed by the portable device. The content can include, but is not limited to, any type of document, such as pictures, calendars, ***images***, spreadsheets, reports, maps, books, text, web pages, etc. as well as their related programs or applications. (¶ 67) (emphasis added). It would have been obvious to utilize the combined teachings as described above for digital images, in view of Robbins.
8. The computer-implemented method of claim 1, wherein the electronic document is a word processing, spreadsheet, email or presentation document.	Robbins also teaches navigating a dataset by panning and zooming. The dataset can include a document or spreadsheet: Referring now to FIG. 2, there is illustrated a block diagram of another advanced navigation system 200 that facilitates the navigation of two-dimensional content space in portable devices. Before navigation (or browsing) can begin, content such as a data-set can be uploaded or accessed by the portable device. The content can include, but is not limited

Claim	Prior Art
	to, any type of document, such as pictures, calendars, images, ***spreadsheets***, reports, maps, books, text, web pages, etc. as well as their related programs or applications. (¶ 67) (emphasis added). It would have been obvious to utilize the combined teachings as described above for spreadsheets, in view of Robbins.
9. The computer-implemented method of claim 1, wherein the electronic document includes a list of items.	Glimpse discloses that it was well known in the art to navigate lists of items: Ramos, et al. [4] described a continuous pressure-sensing stylus to manipulate multi-state objects. They mapped continuous pressure to visual properties of the pointer, e.g., moving the pointer down a ***list of menu selections*** as pressure increases, or to change the appearance of objects, e.g., making objects larger and smaller based on pressure. While this work provides a good exploration of the design space for pressure sensitive widgets, no recommendations are made for implementing pressure sensitivity in a systemwide manner. (p. 1376) (emphasis added).
10. The computer-implemented method of claim 1, wherein the second direction is opposite the first direction.	Robbins also discloses a "spring-loaded" panning from one location to another in an electronic document and then snapping back to the first location using a smooth animation. If the user has directly panned from one location to another, the snapping back movement will simply reverse direction and the second direction will be the opposite of the first. Robbins discloses an example "snap back animation," teaching that when panning from one region to another, the screen will display the first region then zoom out while simultaneously panning toward the new region. As the screen approaches the new region, the view zooms in to align the new area with the edges of the screen. (¶ 75).
11. The computer-implemented method of claim 1, wherein translating in the first direction prior to reaching an edge of the document has an associated speed of translation that corresponds to a speed of movement of the object.	Robbins also teaches that the amount of detail displayed during the panning transition depends on the speed of the pointing device that initiated the panning: Turning now to FIGS. 16-24, a navigational sequence using a pointing device on a small portable device is shown, wherein each figure represents a phase in the sequence. Looking initially at FIG. 16, there is illustrated an image of a portable device 1600 displaying a portion of a map 1610 on its screen. In general, as the speed of a pointing device increases, less detail (e.g., more of an overview) of the underlying content appears on the screen. However, at slower speeds, more detail of the underlying content is

Claim	Prior Art
	displayed. Transitions between views of the content are smooth and fluid-like rather than abrupt zoom-in and out changes. (¶ 112). It would have been obvious to modify the combined teachings as described to provide translation speed corresponding to movement of the pointing object, in view of Robbins.
13. The computer-implemented method of claim 1, wherein the area beyond the edge of the document is black, gray, a solid color, or white.	Inside Out, Fig. 27-13, shows a gray area beyond the edge of a displayed digital document on a touch screen. It would have been obvious to utilize this in modifying the Glimpse article according to Inside Out. (p. 764). To select another color also would have been obvious.
14. The computer-implemented method of claim 1, wherein the area beyond the edge of the document is visually distinct from the document.	Inside Out, Fig. 27-13, shows a visually distinct area beyond the edge of a displayed digital document on a touch screen. It would have been obvious to utilize this in modifying the Glimpse article according to Inside Out. (p. 764).
15. The computer-implemented method of claim 1, wherein translating the document in the second direction is a damped motion.	Robbins also discloses animating smoothly when transitioning between viewed portions of an electronic document (¶ 75). It would have been obvious to modify the combined teachings as described to provide smooth (that is, damped) animation when returning to a previous view, in view of Robbins.
16. The computer-implemented method of claim 1, wherein changing from translating in the first direction to translating in the second direction until the area beyond the edge of the document is no longer displayed makes the edge of the electronic document appear to be elastically attached to an edge of the touch screen display or to an edge displayed on the touch screen display.	As shown graphically above in connection with the first ground of rejection, Glimpse allows a user to save to the system undo stack a view in which the edge of the document is even with the edge of the screen of a touch screen device. Then, when the user further translates in a preview mode to expose an area beyond the edge as would have been obvious in view of Inside Out, and then releases contact with the screen, the view "snaps" back to that stored in the undo stack, making the edge of the document appear to be elastically attached to the edge of the screen display. Furthermore, Robbins teaches navigating from one sector (preview state) to another sector (saved state) of a map (electronic document). Robbins teaches that the transition can be animated by elastically attaching the map to the edges of the frame or screen: When navigating from sector 5 to sector 2 (e.g., from view 610 to view 620 to view 630), the map ***shrinks and stretches*** so that the aspect of the selected child view ***fills the frame or screen***. (¶ 84, emphasis added). It would have been obvious to one of ordinary skill in the art to use

Claim	Prior Art
	the elastic animation of Robbins in combination with the panning technique of Glimpse which calls for animating the panning transition between the preview state and the saved state.
17 [a] The computer-implemented method of claim 1, wherein translating in the first direction prior to reaching the edge of the electronic document has a first associated translating distance that corresponds to a distance of movement of the object prior to reaching the edge of the electronic document;	The Glimpse article references tracking of the stylus or finger object on a touch screen (p. 1376-77) and the translation distance prior to reaching an edge clearly can be large in comparison to dimensions of the screen.
17[b] and wherein displaying an area beyond the edge of the electronic document comprises translating the electronic document in the first direction for a second associated translating distance, wherein the second associated translating distance is less than a distance of movement of the object after reaching the edge of the electronic document.	Inside Out shows a small dimension of area beyond the edges, obviously often less than the distance the document has been translated before reaching the edge. (Fig. 27-13, p. 764). It would have been obvious to modify Glimpse by exposing a relatively small area beyond the edges as shown in Inside Out, where the movement required to expose that area is less than the distance the document was translated before reaching the edge.
19[a] A device, comprising:	The Glimpse article discloses "multi-level input devices such as touch screens and pen-based computers." (Abstract).
19[b] a touch screen display;	Glimpse discloses "multi-level input devices such as touch screens and pen-based computers." (Abstract). Inside Out discloses a touch screen Tablet PC. (Fig. 27-10, p. 762)
19[c] one or more processors; memory; and one or more programs, wherein the one or more programs are stored in the memory and configured to be executed by the one or more processors, the programs including:	Glimpse discloses "multi-level input devices such as touch screens and pen-based computers." (Abstract). Glimpse also discloses using a "Tablet PC...as our pressure sensitive input device." (p.1376)
19[d] instructions for displaying a first portion of an electronic document;	Glimpse discloses allowing a user to pan to different portions of a document displayed on a multi-level touch screen, including the displaying of a first portion of an electronic document: Our technique would enable users to preview different magnification levels with light touch input before choosing to remain at the new level with a heavy touch or to return to a previous level by releasing. Similarly a user may click and drag using light input to ***pan to other portions of the document***, easily able to return to their previous position. Taking a temporary glimpse at details that are too small to

Claim	Prior Art
	see clearly (in the case of zooming) or off-screen (in the case of panning) becomes a single touch operation. (p. 1377)(emphasis added).
19[e] instructions for detecting a movement of an object on or near the touch screen display;	Glimpse discloses allowing a user to pan to different portions of a document displayed on a multi-level touch screen, including the displaying of a first portion of an electronic document: Our technique would enable users to preview different magnification levels with light touch input before choosing to remain at the new level with a heavy touch or to return to a previous level by releasing. Similarly a user may click and drag using light input to ***pan to other portions of the document***, easily able to return to their previous position. Taking a temporary glimpse at details that are too small to see clearly (in the case of zooming) or off-screen (in the case of panning) becomes a single touch operation. (p. 1377)(emphasis added).
19[f] instructions for translating the electronic document displayed on the touch screen display in a first direction to display a second portion of the electronic document, wherein the second portion is different from the first portion, in response to detecting the movement;	Glimpse discloses panning to different portions of an electronic document using a progression of light touch to heavy touch and back again. Glimpse teaches that if a light touch is applied, a preview of a second portion of the document is displayed to the user. If the user then applies a heavy touch, the view on the screen when the heavy touch is applied becomes the new saved location. The user then returns to applying a light touch to continue previewing other portions of the document without ever breaking contact with the screen. (p. 1376-77) In addition, the 381 patent admits that the prior art teaches this limitation. The 381 patent teaches that only a portion of a large electronic document can be visible on the small screen of a portable electronic device at a given time. A user can pan electronic documents to display other portions on the screen: As a result of the small size of display screens on portable electronic devices and the potentially large size of electronic files, frequently only a portion of a list or of an electronic document of interest to a user can be displayed on the screen at a given time. Users thus will frequently need to scroll displayed lists or to translate displayed electronic documents. (Col. 2, ln 14-21).
19[g] instructions for displaying an area beyond an edge of the electronic	Glimpse discloses a user panning to display various portions of an electronic document, including a second portion, while the object is

Claim	Prior Art
document and displaying a third portion of the electronic document, wherein the third portion is smaller than the first portion, in response to the edge of the electronic document being reached while translating the electronic document in the first direction while the object is still detected on or near the touch screen display; and	still detected on the screen with at least a light touch. (p. 1376-77). To the extent displaying an area beyond the edge of a document is not explicitly or inherently disclosed by Glimpse, doing so would have been obvious to one skilled in the art in light of Glimpse, either alone, or in combination with Inside Out, which teaches continuing translation of an electronic document when an edge is reached until an area beyond the edge is displayed on a Tablet PC. (p. 764). One of ordinary skill in the art would have been motivated to combine Glimpse with Inside Out's teaching of Microsoft Word 2003 functions because Glimpse is directed to navigating, exploring, and editing electronic documents on a Tablet PC. Glimpse teaches using a Tablet PC "as our pressure sensitive input device." (p. 1377). The Inside Out reference explains that Tablet PCs can run Microsoft Word 2003. Furthermore, it would have been common sense at the time to use a Microsoft Word 2003 document on a Tablet PC, and therefore, in combination with Glimpse.
19[h] instructions for translating the electronic document in a second direction until the area beyond the edge of the electronic document is no longer displayed to display a fourth portion of the electronic document, wherein the fourth portion is different from the first portion, in response to detecting that the object is no longer on or near the touch screen display.	Glimpse teaches that when contact is broken with the screen, the screen automatically pans back to the saved state of the document, which is a fourth portion that is different than the first portion. Combination of Inside Out with Glimpse as described above further includes panning beyond an edge. It would have been obvious to return by panning the document in a second direction because Glimpse teaches "animating this undo graphically" to return to the previous view. (p. 1377). Continuing in the first direction is not an operable option for accomplishing the return. If a Glimpse user has applied a heavy touch while panning around the document, the saved system undo stack (default state) is the location where the user applied the heavy touch (second portion), not the location where the user began panning with a light touch (first portion). Therefore, the restored view (fourth portion) is the same as the second portion and different from the first portion. (p. 1376-77). The view of the second portion prior reaching an edge obscures the previously displayed area beyond the edge. In addition, to the extent (assuming for the sake of argument) panning (translating) in a second direction is not explicitly or inherently disclosed by Glimpse, such action would have been an obvious modification of Glimpse, as modified by Inside Out, in light of the Robbins reference. One of ordinary skill in the art would have been motivated to combine Glimpse with Robbins because both solutions are directed to the problem of navigating electronic documents by panning and zooming. Robbins teaches allowing a

Claim	Prior Art
	user to "glance" at other parts of a document with the option to easily revert back to the previous location. (¶ 9). Glimpse teaches animating a transition from the preview state to the saved state. (p. 1377). Robbins also teaches animating a transition between views while the user is panning. (¶ 75, 86). In fact, Robbins teaches using a spring-loaded panning animation after a user stops glancing at a region to "snap back to the previous view." (¶ 9, 71, 75, 86). Because Glimpse calls for animating a transition, it would have been common sense to choose a simple animation that unwinds the panning and pans back from the preview state to the saved state, as more fully disclosed in Robbins. Thus, it would have been obvious to one of ordinary skill in the art to utilize the animations of the Robbins application in implementing the Glimpse technique for undo animation, as modified by Inside Out.
20[a] A computer readable storage medium having stored therein instructions, which when executed by a device with a touch screen display, cause the device to:	Glimpse discloses "multi-level input devices such as touch screens and pen-based computers." (Abstract). Inside Out discloses a touch screen Tablet PC. (Fig. 27-10, p. 762)
20[b] display a first portion of an electronic document;	Glimpse discloses allowing a user to pan to different portions of a document displayed on a multi-level touch screen, including the displaying of a first portion of an electronic document: Our technique would enable users to preview different magnification levels with light touch input before choosing to remain at the new level with a heavy touch or to return to a previous level by releasing. Similarly a user may click and drag using light input to ***pan to other portions of the document***, easily able to return to their previous position. Taking a temporary glimpse at details that are too small to see clearly (in the case of zooming) or off-screen (in the case of panning) becomes a single touch operation. (p. 1377)(emphasis added).
20[c] Detect a movement of an object on or near the touch screen display;	Glimpse teaches detecting movement of an object on the touch screen display by using a pressure sensitive touch screen to identify multi-level input, including both light touch and heavy touch: The technique we propose provides a method for editing objects with a multi-level input device such as a pressure sensitive stylus, ***pressure sensitive touch screen***, or pop-through mouse. We have used both a TabletPC and a touch

Claim	Prior Art
	sensitive DiamondTouch [3] surface as our pressure sensitive input device. (p. 1376)(emphasis added). Glimpse also teaches tracking movement of an object in contact with the pressure sensitive screen: Any multi-state input device that also ***provides tracking*** (explicitly, as in the case of the pop-through mouse's on-screen pointer, or implicitly, as in the case of a stylus or finger) can exploit this technique. (p. 1376) (emphasis added). Inside Out discloses stylus input to a touch screen Tablet PC. (Fig. 27-10, p. 762)
20[d] translate the electronic document displayed on the touch screen display in a first direction to display a second portion of the electronic document, wherein the second portion is different from the first portion, in response to detecting the movement;	Glimpse discloses panning to different portions of an electronic document using a progression of light touch to heavy touch and back again. Glimpse teaches that if a light touch is applied, a preview of a second portion of the document is displayed to the user. If the user then applies a heavy touch, the view on the screen when the heavy touch is applied becomes the new saved location. The user then returns to applying a light touch to continue previewing other portions of the document without ever breaking contact with the screen. (p. 1376-77) In addition, the 381 patent admits that the prior art teaches this limitation. The 381 patent teaches that only a portion of a large electronic document can be visible on the small screen of a portable electronic device at a given time. A user can pan electronic documents to display other portions on the screen: As a result of the small size of display screens on portable electronic devices and the potentially large size of electronic files, frequently only a portion of a list or of an electronic document of interest to a user can be displayed on the screen at a given time. Users thus will frequently need to scroll displayed lists or to translate displayed electronic documents. (Col. 2, ln 14-21).
20[e] display an area beyond an edge of the electronic document and display a third portion of the electronic document, wherein the third portion is smaller than the first portion, if the edge of the electronic document is reached while translating the electronic document in the first direction while the object is still	Glimpse discloses a user panning to display various portions of an electronic document, including a second portion, while the object is still detected on the screen with at least a light touch. (p. 1376-77). To the extent displaying an area beyond the edge of a document is not explicitly or inherently disclosed by Glimpse, doing so would have been obvious to one skilled in the art in light of Glimpse, either alone, or in combination with Inside Out, which teaches continuing

Claim	Prior Art
detected on or near the touch screen display;	translation of an electronic document when an edge is reached until an area beyond the edge is displayed on a Tablet PC. (p. 764). One of ordinary skill in the art would have been motivated to combine Glimpse with Inside Out's teaching of Microsoft Word 2003 functions because Glimpse is directed to navigating, exploring, and editing electronic documents on a Tablet PC. Glimpse teaches using a Tablet PC "as our pressure sensitive input device." (p. 1377). The Inside Out reference explains that Tablet PCs can run Microsoft Word 2003. Furthermore, it would have been common sense at the time to use a Microsoft Word 2003 document on a Tablet PC, and therefore, in combination with Glimpse.
20[f] translate the electronic document in a second direction until the area beyond the edge of the electronic document is no longer displayed to display a fourth portion of the electronic document, wherein the fourth portion is different from the first portion, in response to detecting that the object is no longer on or near the touch screen display.	Glimpse teaches that when contact is broken with the screen, the screen automatically pans back to the saved state of the document, which is a fourth portion that is different than the first portion. Combination of Inside Out with Glimpse as described above further includes panning beyond an edge. It would have been obvious to return by panning the document in a second direction because Glimpse teaches "animating this undo graphically" to return to the previous view. (p. 1377). Continuing in the first direction is not an operable option for accomplishing the return. If a Glimpse user has applied a heavy touch while panning around the document, the saved system undo stack (default state) is the location where the user applied the heavy touch (second portion), not the location where the user began panning with a light touch (first portion). Therefore, the restored view (fourth portion) is the same as the second portion and different from the first portion. (p. 1376-77). The view of the second portion prior reaching an edge obscures the previously displayed area beyond the edge. In addition, to the extent (assuming for the sake of argument) panning (translating) in a second direction is not explicitly or inherently disclosed by Glimpse, such action would have been an obvious modification of Glimpse, as modified by Inside Out, in light of the Robbins reference. One of ordinary skill in the art would have been motivated to combine Glimpse with Robbins because both solutions are directed to the problem of navigating electronic documents by panning and zooming. Robbins teaches allowing a user to "glance" at other parts of a document with the option to easily revert back to the previous location. (¶ 9). Glimpse teaches animating a transition from the preview state to the saved state. (p. 1377). Robbins also teaches animating a transition between views while the user is panning. (¶ 75, 86). In fact, Robbins teaches using a spring-loaded panning animation

Claim	Prior Art
	after a user stops glancing at a region to "snap back to the previous view." (¶ 9, 71, 75, 86). Because Glimpse calls for animating a transition, it would have been common sense to choose a simple animation that unwinds the panning and pans back from the preview state to the saved state, as more fully disclosed in Robbins. Thus, it would have been obvious to one of ordinary skill in the art to utilize the animations of the Robbins application in implementing the Glimpse technique for undo animation, as modified by Inside Out.

The Glimpse article discloses all of the elements of claim 1 of the '381 patent implemented on a touch screen device except displaying an area beyond an edge of the document in response to reaching the edge. Inside Out discloses displaying an area beyond an edge of the document in response to reaching the edge, on a touch screen device. Glimpse teaches animating a return to a previous view on releasing a pointing device or finger from the screen. The Robbins application teaches translating from and, upon releasing a pointing device or finger from the screen, returning to a previous view using a "spring-loaded animation." It would have been obvious in light of Inside Out to display an area beyond the edge of a document when practicing the method of Glimpse upon reaching the edge, and, upon releasing contact with the screen, to retrace the initial translating motion in the manner of a retracting spring, in light of the Robbins application. At the end of such motions, according to a mode of operation of the Glimpse method described above, the area beyond the edge of the document would no longer be displayed.

The result of applying the described teaching from Inside Out to the Glimpse article method was predictable, namely, on translating and reaching an edge, an area

beyond the edge would be displayed until the user or the system translated the document to display a portion away from the edge. The result of applying Robbins' spring-loaded return function to the method of Glimpse as modified by Inside Out was predictable, namely, to cause the animation to retrace the previous route of translation in a first direction, just as a "spring" retracts in a second direction opposite to its initial route.

One skilled in the art would have found a clear motivation to modify the Glimpse article with the teachings of Inside Out and the Robbins application, as both Glimpse and Inside Out disclosing using their navigating and display techniques on Tablet PCs and Robbins discloses using its techniques on a portable device with a touch screen or touch pad sensitive to a pointing device. Therefore, it would have been obvious to combine these three references as described to obtain the invention claimed in claim 1.

Independent claims 19 and 20 are device and computer readable medium versions of claim 1, and both read on the combination of the Glimpse article in view of the Robbins application and Inside Out according the same analysis applied above in connection with claim 1. Dependent claims 2-11, 13-16, and 17 would have been obvious for the reasons stated in the above claims chart for this second ground of rejection.

(c) ***Third Ground for Rejection*:** Claims 5, 9, 11, 12, 15, and 18 would have been obvious over the Glimpse article in view of Inside Out, the Robbins application, and the Zimmerman patent.

By comparing the content of the Glimpse article, Inside Out, the Robbins application, and the Zimmerman patent to claims 5, 9, 11, 12, 15, and 18 of the '381

patent, it will become clear that the claimed subject matter would have been obvious to one of ordinary skill in the art.

Claim	Prior Art
5. The computer-implemented method of claim 1, wherein the first direction is a vertical direction, a horizontal direction, or a diagonal direction.	The analysis for claims 1 and 5 provided in the Second Ground for Rejection above is incorporated here. The Zimmerman patent further teaches translation in a vertical direction by indicating that: "Electronic image displays of lists that extend beyond the vertical display dimension of the display screen are displaced in the vertical direction by touching the screen with a finger and then moving the finger in the desired direction on the screen." (Abstract). It would have been obvious to translate documents vertically in the Glimpse method in view of the Zimmerman patent.
9. The computer-implemented method of claim 1, wherein the electronic document includes a list of items.	The analysis for claims 1 and 9 provided in the Second Ground for Rejection above is incorporated here. The Zimmerman patent further teaches translation in a vertical direction by indicating that: "Electronic image displays of lists that extend beyond the vertical display dimension of the display screen are displaced in the vertical direction by touching the screen with a finger and then moving the finger in the desired direction on the screen." (Abstract). It would have been obvious to translate documents including displays of lists vertically in the Glimpse method in view of the Zimmerman patent.
11. The computer-implemented method of claim 1, wherein translating in the first direction prior to reaching an edge of the document has an associated speed of translation that corresponds to a speed of movement of the object.	The analysis for claims 1 and 11provided in the Second Ground for Rejection above is incorporated here. The Zimmerman patent teaches that in a natural manner, the initial speed of displacement of the displayed image corresponds to the speed of motion of the finger along the screen. It would have been obvious to modify the combined teachings as described to provide translation speed corresponding to movement of the pointing object, in view of Zimmerman. (Abstract; col. 3, ln. 54-57).
12. The computer-implemented method of claim 1, wherein translating in the first direction is in accordance with a simulation of an equation of motion having friction.	The analysis for claim 1 provided in the Second Ground for Rejection above is incorporated here. Zimmerman discloses translating a list (electronic document) in a first direction while the user maintains contact with the screen, and under some conditions, applies damping to the translation speed: Electronic image displays of lists that extend beyond the vertical display dimension of the display screen are displaced in the vertical direction by touching the screen with a finger and then moving the finger in the desired direction on the screen. In a natural manner the initial speed of displacement of the displayed image corresponds to the speed of motion of the finger along the screen. When the user's finger is disengaged from the screen, the system senses the disengagement and thereafter allows the vertical

Claim	Prior Art
	displacement speed of the image to decrease at a controlled rate. (Abstract). Decreasing a displacement speed at a controlled rate would have been understood to be a damped motion, which the '854 patent treats as the same as following an equation of motion having friction. It would have been obvious to modify the combined teachings as described to provide translation speed in the first direction corresponding to simulation of an equation of motion having friction, in view of Zimmerman. (See col. 3, ln. 54 – col. 4, ln. 37).
15. The computer-implemented method of claim 1, wherein translating the document in the second direction is a damped motion.	The analysis for claims 1 and 15 provided in the Second Ground for Rejection above is incorporated here. Zimmerman discloses translating a list (electronic document) in a first direction while the user maintains contact with the screen. When the user breaks contact, the list continues translating but the speed slowly decreases until it reaches zero: Electronic image displays of lists that extend beyond the vertical display dimension of the display screen are displaced in the vertical direction by touching the screen with a finger and then moving the finger in the desired direction on the screen. In a natural manner the initial speed of displacement of the displayed image corresponds to the speed of motion of the finger along the screen. When the user's finger is disengaged from the screen, the system senses the disengagement and thereafter allows the vertical displacement speed of the image to decrease at a controlled rate. (Abstract). (See col. 3, ln. 54 – col. 4, ln. 37). Decreasing a displacement speed at a controlled rate would have been understood to be a damped motion. It would have been obvious to modify the combined teachings as described to provide a damped translation speed in the second direction, in view of Zimmerman and Robbins.
18. The computer-implemented method of claim 1, wherein translating in the first direction prior to reaching the edge of the electronic document has a first associated translating speed that corresponds to a speed of movement of the object, and wherein displaying an area beyond the edge of the electronic document comprises translating the electronic document in the first direction at a second associated translating speed,	The analysis for claim 1 provided in the Second Ground for Rejection above is incorporated here. Zimmerman discloses panning a list (electronic document) in a first direction until a specified event occurs. In Zimmerman, the specified event is the user breaking contact with the screen. As long as this event does not occur, the list continues panning at a first speed. When the user breaks contact, the list continues panning but the speed is decreased. (Abstract) It would have been obvious to one skilled in the art to apply the

Claim	Prior Art
wherein the second associated translating speed is slower than the first associated translating speed.	speed decrease of Zimmerman after other kinds of events occur, such as reaching the edge of an electronic document. After reaching an edge, the user would naturally tend to break contact with the screen, resulting in a lower translation speed in a Zimmerman method. (Col. 3, ln. 54 – col. 4, ln. 37). It would have been obvious to one of ordinary skill in the art to modify the combined teachings as described to provide a damped (lower) translation speed during the display of an area beyond the edge of the electronic document, in view of Zimmerman and Robbins.

Claims 5, 11, 12, 15, and 18 depend from Claim 1, which in the First and Second Grounds for Rejection has been shown to read on obvious combinations of prior art not previously considered by the Office.

Claims 5 and 9 are met, respectively, by document movement in the first direction being vertical, and by the document being a list, which are taught by the Zimmerman patent explicitly.

Claim 11 requires a speed of translation prior to reaching an edge of the document that corresponds to the speed of a finger or other object along the screen, which is taught by the Zimmerman patent explicitly.

Claim 12 requires that movement in the first direction is in accordance with a simulation of an equation of motion having friction. The Zimmerman patent teaches damping translating motions. The result of applying this known technique to translation of documents according to the Glimpse article would have been predictable in that a damping effect would have been applied to the translation.

Claim 15 requires damped motion in the second direction, as the area beyond the edge becomes no longer displayed. Zimmerman's damped motion provides a smooth

animation that was predictably applicable to the return animation techniques taught by the other references.

Claim 18 requires moving the document more slowly as the area beyond the edge is displayed. Zimmerman teaches damping the translating motion at the end of a translation. It would have been predictably obvious to apply such damping when displaying an area beyond the edge of a document according to the combination of Glimpse and Inside Out.

Like the other references, Zimmerman relates to translation of electronic documents displayed on a touch screen. It would have been obvious to modify the combination of the Glimpse article method modified by teachings of Inside Out and the Robbins application in accordance with the foregoing teachings of the Zimmerman patent to meet dependent claims 5, 11, 12, 15, and 18.

III. Conclusion

The Glimpse article, Inside Out, and the Robbins application, were not previously considered, and they are not cumulative with the references previously considered. Consideration of obvious combinations of these references in accordance with the proposed Grounds for Rejection, and, for some dependent claims, in view of the Zimmerman patent, leads to the conclusion that these references create substantial new questions of patentability for claims 1-20 of the '381 patent. Third party requester further submits that claims 1-20 must be rejected as unpatentable.

Respectfully submitted,

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