

# Exhibit V

U 7293220



# THE UNITED STATES OF AMERICA

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United States Patent and Trademark Office**

**April 26, 2011**

**THIS IS TO CERTIFY THAT ANNEXED HERETO IS A TRUE COPY FROM  
THE RECORDS OF THIS OFFICE OF:**

**U.S. PATENT: 7,469,381  
ISSUE DATE: December 23, 2008**

**By Authority of the  
Under Secretary of Commerce for Intellectual Property  
and Director of the United States Patent and Trademark Office**

**P. SWAIN  
Certifying Officer**



Pages Intentionally Omitted



US007469381B2

(12) **United States Patent  
Ording**

(10) **Patent No.: US 7,469,381 B2**  
(45) **Date of Patent: Dec. 23, 2008**

(54) **LIST SCROLLING AND DOCUMENT  
TRANSLATION, SCALING, AND ROTATION  
ON A TOUCH-SCREEN DISPLAY**

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6,567,102 B2 5/2003 Kung ..... 345/660

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(Continued)

(73) **Assignee: Apple Inc., Cupertino, CA (US)**

FOREIGN PATENT DOCUMENTS

(\*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

EP 0 635 779 A1 1/1995

(21) **Appl. No.: 11/956,969**

(Continued)

(22) **Filed: Dec. 14, 2007**

OTHER PUBLICATIONS

(65) **Prior Publication Data**

US 2008/0168404 A1 Jul. 10, 2008

Microsoft Word 2003 Screen Shots.\*

**Related U.S. Application Data**

(Continued)

(60) **Provisional application No. 60/937,993, filed on Jun. 29, 2007, provisional application No. 60/946,971, filed on Jun. 28, 2007, provisional application No. 60/945,858, filed on Jun. 22, 2007, provisional application No. 60/879,469, filed on Jan. 8, 2007, provisional application No. 60/883,801, filed on Jan. 7, 2007, provisional application No. 60/879,253, filed on Jan. 7, 2007.**

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(51) **Int. Cl.**

**G06F 3/01** (2006.01)

(57) **ABSTRACT**

(52) **U.S. Cl.** ..... 715/702; 715/764; 715/863; 715/864; 715/769

(58) **Field of Classification Search** ..... 715/764, 715/769, 702, 863, 864

See application file for complete search history.

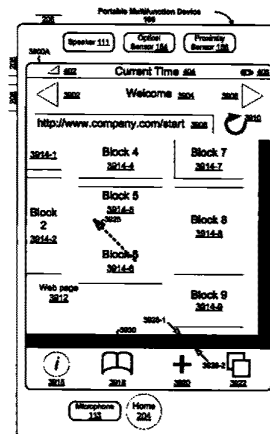
In accordance with some embodiments, a computer-implemented method for use in conjunction with a device with a touch screen display is disclosed. In the method, a movement of an object on or near the touch screen display is detected. In response to detecting the movement, an electronic document displayed on the touch screen display is translated in a first direction. If an 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, an area beyond the edge of the document is displayed. After the object is no longer detected on or near the touch screen display, the document is translated in a second direction until the area beyond the edge of the document is no longer displayed.

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**20 Claims, 38 Drawing Sheets**



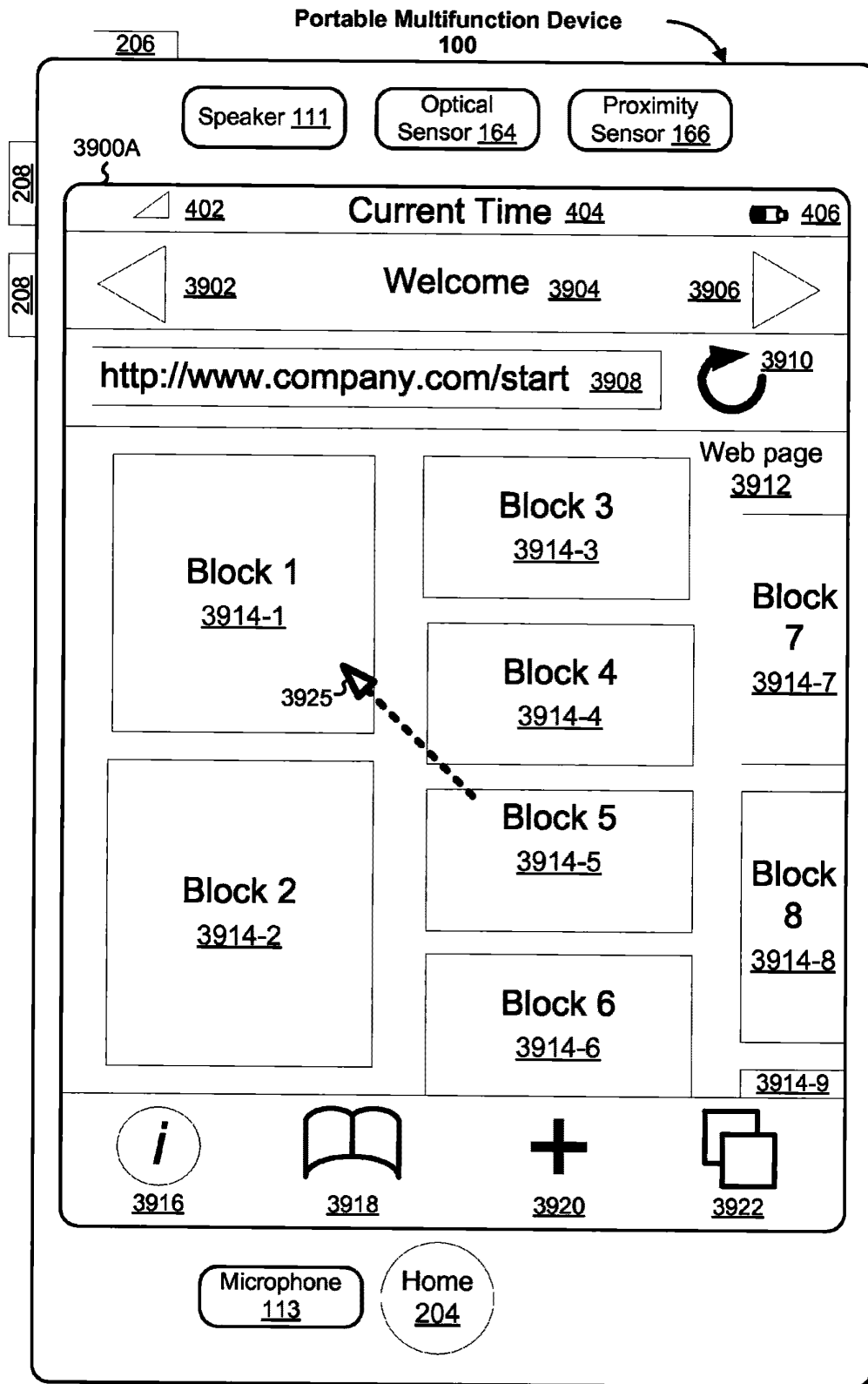


Figure 8A

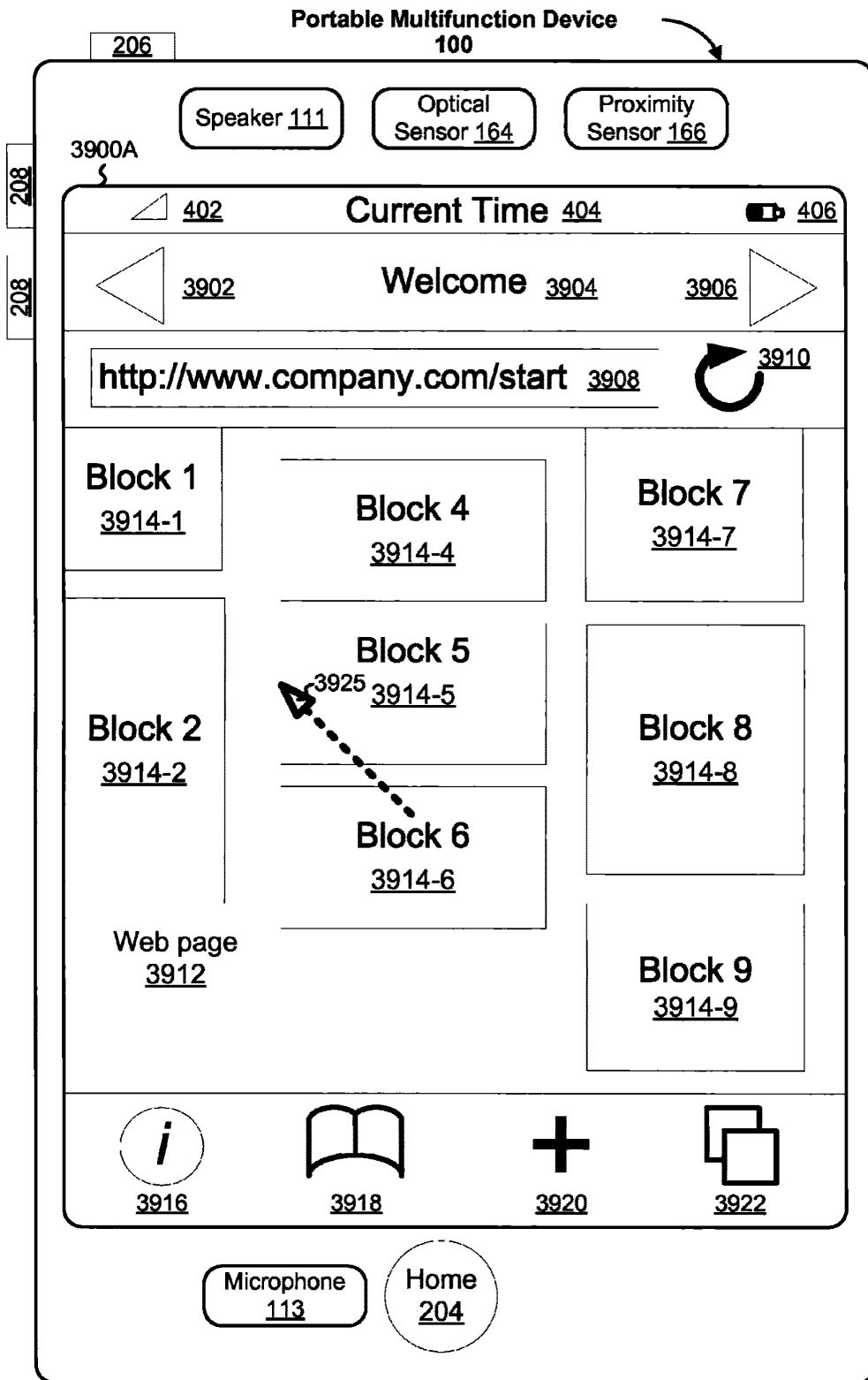


Figure 8B

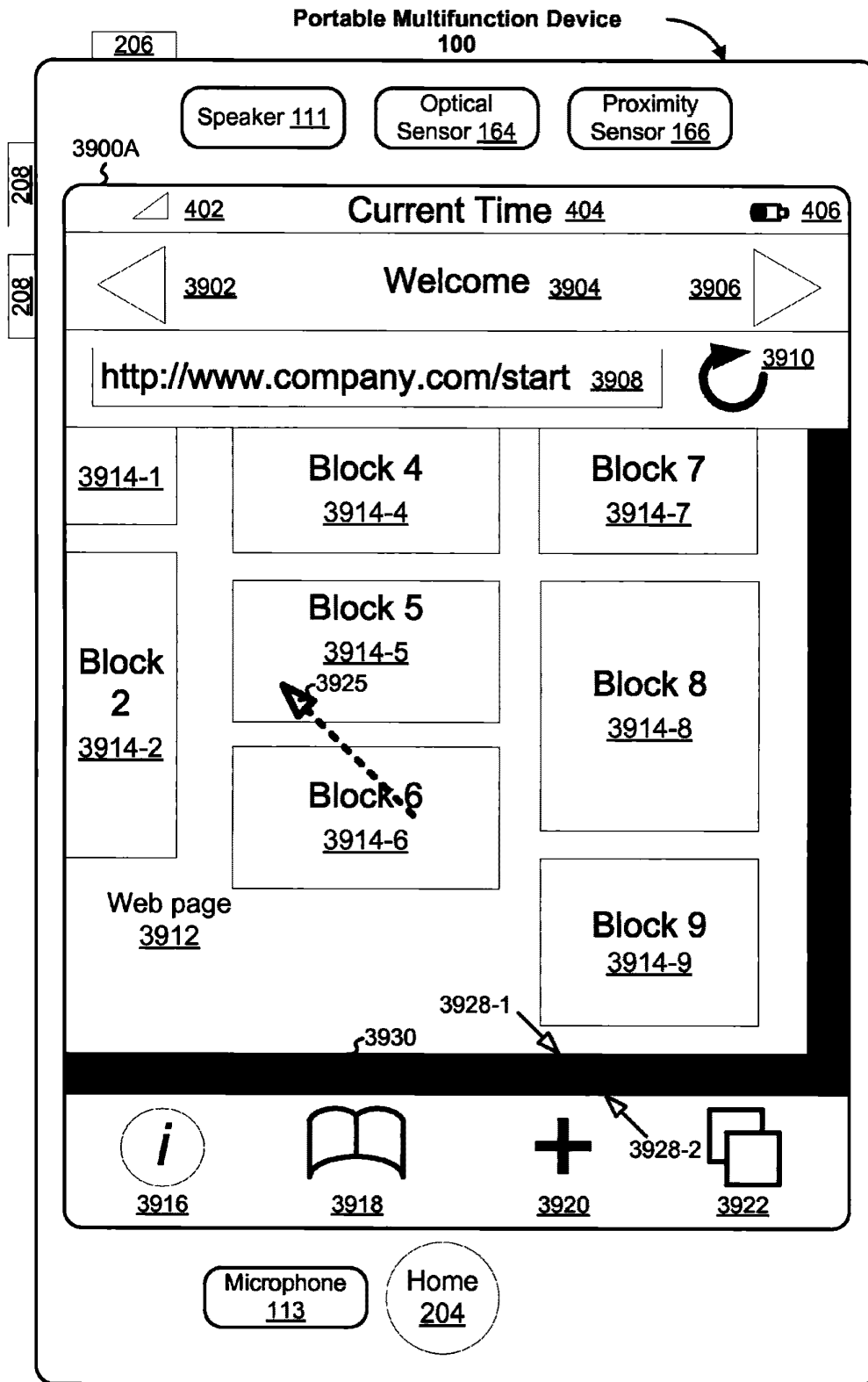


Figure 8C

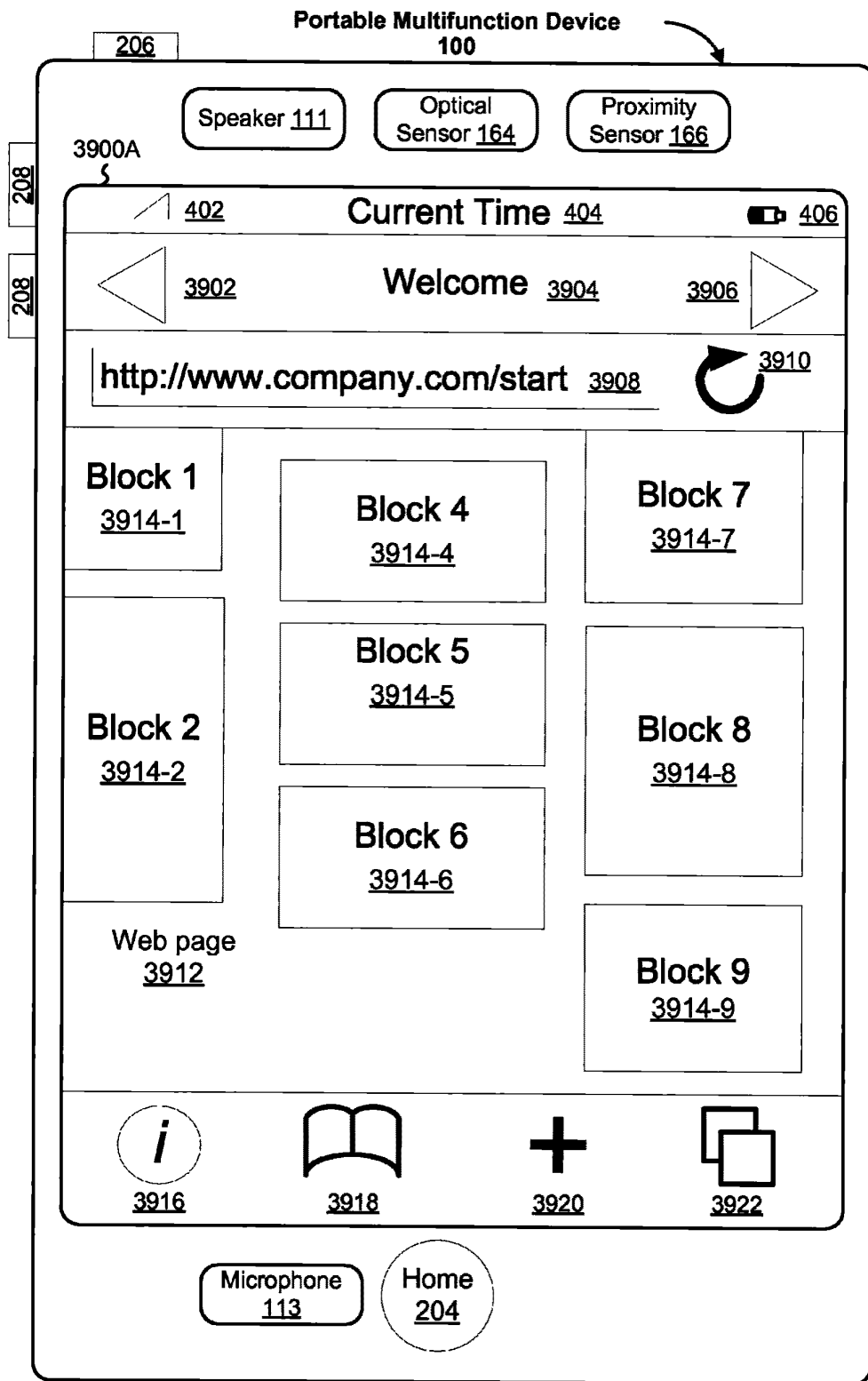


Figure 8D



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programs, modules, and data structures analogous to the programs, modules, and data structures stored in the memory 102 of portable multifunction device 100 (FIG. 1), or a subset thereof. Furthermore, memory 1770 may store additional programs, modules, and data structures (not shown) not present in the memory 102 of portable multifunction device 100.

Each of the above identified elements in FIG. 17 may be stored in one or more of the previously mentioned memory devices. Each of the above identified modules corresponds to a set of instructions for performing a function described above. The above identified modules or programs (i.e., sets of instructions) need not be implemented as separate software programs, procedures or modules, and thus various subsets of these modules may be combined or otherwise re-arranged in various embodiments. In some embodiments, memory 1770 may store a subset of the modules and data structures identified above. Furthermore, memory 1770 may store additional modules and data structures not described above.

The foregoing description, for purpose of explanation, has been described with reference to specific embodiments. However, the illustrative discussions above are not intended to be exhaustive or to limit the invention to the precise forms disclosed. Many modifications and variations are possible in view of the above teachings. The embodiments were chosen and described in order to best explain the principles of the invention and its practical applications, to thereby enable others skilled in the art to best utilize the invention and various embodiments with various modifications as are suited to the particular use contemplated.

What is claimed is:

1. A computer-implemented method, comprising:  
at 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.

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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;

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UNITED STATES PATENT AND TRADEMARK OFFICE  
**CERTIFICATE OF CORRECTION**

PATENT NO. : 7,469,381 B2  
APPLICATION NO. : 11/956969  
DATED : December 23, 2008  
INVENTOR(S) : Ording

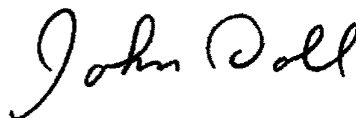
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It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 38, line 8, please insert -- ; -- after movement.

Signed and Sealed this

Seventeenth Day of February, 2009



JOHN DOLL  
*Acting Director of the United States Patent and Trademark Office*