EXHIBIT 4
INVALIDITY CLAIM CHART FOR TABLECLOTH/DTFLASH COMMERCIALLY SOLD, PUBLICLY KNOWN, OR PUBLICLY USED BEFORE DECEMBER 14, 2007[1] ("Tablecloth/DTFlash")

EXAMPLE 2 – (electronic document consists of primary image)

Introduction

Tablecloth was a simple demo application [redacted] (Forlines Decl. ¶6) meant to showcase DTFlash, a software toolkit that allowed programmers to write DiamondTouch-aware Macromedia/Adobe Flash applications. In particular, Tablecloth/DTFlash first generates a "primary" image on the screen (a screengrab of a standard Windows XP desktop). When a user scrolls the electronic document upward, a "secondary" image (a copy of the primary image) fills in the area vacated by the primary image. Similarly, when a user scrolls the electronic document downward, a "secondary" image again fills the area vacated by the primary image. When using the Tablecloth/DTFlash program inside an ordinary window that typically does not occupy the entire display area, the Tablecloth/DTFlash program accepts touch events both inside and outside the window. Because the user can overscroll, i.e., continue dragging the image even though the finger is outside the window boundary, the user can cause the contents to keep scrolling to provide the appearance of three full copies of the image – a primary image and what appear to be two copies of the image – one above and one below.

[redacted] Forlines Decl. at ¶8. The purpose of the secondary image is to fill the window's content area vacated by the primary image as it is scrolled from the "home position" where it fills the entirety of the application window's content area. Thus, when the user scrolls (i.e. "translates") the primary image upward, a strip of the secondary image is visible below the first instance to fill in the vacated space. Similarly, when the user scrolls the primary instance of the image downward, a strip of the [redacted] secondary image is visible above the primary instance.

[1] "Tablecloth/DTFlash" refers to the Tablecloth application running on The Mitsubishi Electric Research Laboratories (MERL) Diamond Touch table. Tablecloth makes use of a software toolkit called DTFlash that runs on the MERL DiamondTouch table. Tablecloth/DTFlash was publicly available in the lobby of MERL as of January 2005. *See, e.g.*, Decl. of A. Bogue ¶ 8.

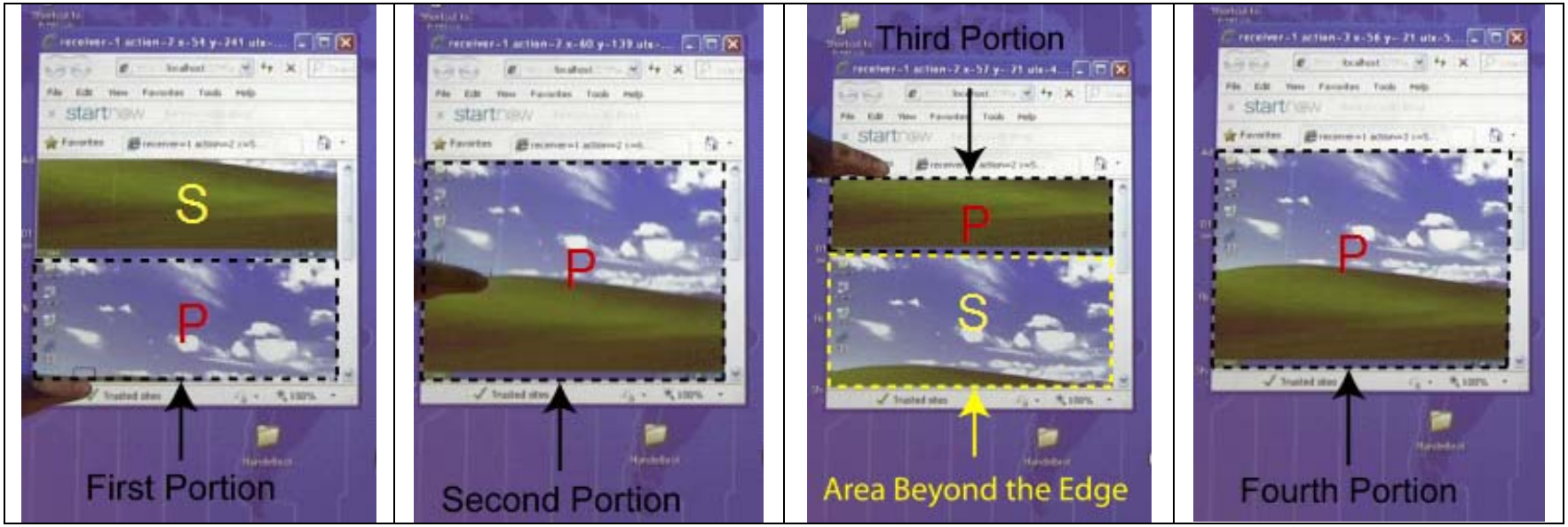
Meaning of Electronic Document

Because the Court has not provided a construction for "electronic document," and since the '381 patent does not provide an explicit definition of "electronic document," only providing examples of electronic documents, I interpret "electronic document" according to the construction Samsung proposed in its Patent Local Rule 4-2 disclosures, namely "information that is visually represented on a screen that has a defined set of boundaries." Samsung P.L.R. 4-2 Exh. A. Dr. Balakrishnan's testimony [redacted]" 8/16/2011 Deposition of Ravin Balakrishnan at 27:19-24, attached as Exhibit 2.

Based on my construction of the term, I consider both of the following as examples of "electronic documents": a single primary image, or the combination of the primary image and the secondary image which can appear above or below the primary image. In this Exhibit, I analyze the electronic document as a single primary image. This example does not correspond to the example I provide in my Expert Report; however, it is analogous to a single image within a photo gallery, which Apple describes as an electronic document in their infringement analysis of claim 19. In Exhibit 3, I analyze the electronic document as or the combination of the primary image and the secondary image. Both of these examples identify an electronic document. Under either example, claim 19 of the '381 patent is anticipated by the Tablecloth/DTFlash reference.

Overview of Invalidity Argument

The chart found herein identifies in detail how each limitation of the '381 patent is met by Tablecloth/DTFlash. To place this chart in perspective, below are images showing the key elements of the snap-back behavior in the case where the electronic document is the primary image. The first screenshot shows the application window with its light gray border (chrome) on the larger table (blue background on the bottom of each screenshot). The First Portion shows the primary image that has been scrolled down to show a strip of the secondary image (the green grass) above the top edge of the primary image. The second screen shot shows the finger scrolling the primary image upwards (the first direction) so it scrolls off the top. In the third screenshot the user continues to scroll the electronic document upward in the first direction, past an area beyond the bottom edge of the electronic document and a strip from secondary image forms the area beyond the edge. In the fourth screenshot, the user then lifts her finger, causing the document to snap back. This action meets the key limitations of the '381 patent which broadly require: (1) a first portion of the electronic document; (2) a second portion in response to moving an object on the screen, (e.g. finger scrolling upward); (3) a third portion and an area beyond the edge of the electronic document in response to the edge being reached; and (4) a fourth portion with the area beyond the edge of the document no longer displayed:



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[19A] A device, comprising:	To the extent the preamble is a limitation, the Tablecloth/DTFlash application runs on a device, the DiamondTouch system. Dr. Balakrishnan did not dispute this in his expert report. The figure below shows the DiamondTouch system running Tablecloth/DTFlash. The DiamondTouch system includes a touch-sensitive table on which the display is projected. The configuration has been calibrated using software designed for the DiamondTouch table prior to launching applications, including Tablecloth/DTFlash. Calibration involves the user touching the four corners of the image that is projected onto the table. The purpose of the calibration is to allow the projector to display on the full extent of the table and more importantly, to allow the software to register touch events accurately. Beside the DiamondTouch table is a computer, in this case a ThinkPad laptop, which drives the DiamondTouch system.

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	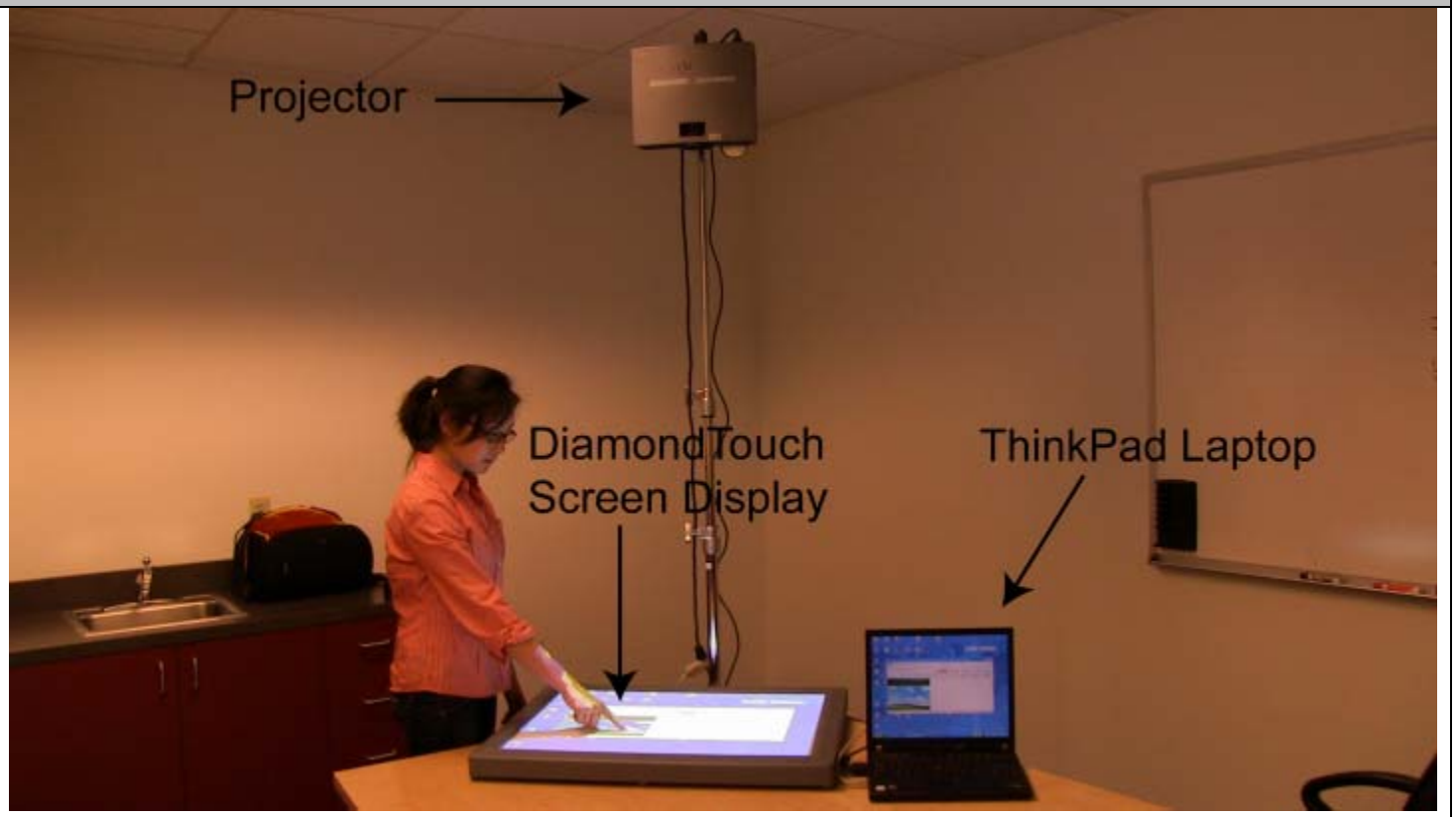
[19B] a touch screen display;	Tablecloth/DTFlash runs on a DiamondTouch system. The DiamondTouch system running Tablecloth/DTFlash discloses a device with a touch screen display. For example, MERL TR 2005-105 discloses that "DTFlash is designed so that those familiar with Macromedia Flash authoring tools can add multi-user multi-touch gestures and behaviors to web-enabled games and other applications for the DiamondTouch table." MERL TR 2005-105 at Abstract. MERL TR 2002-48 discloses that "DiamondTouch is a multi-touch input technology." MERL TR 2002-48 at Abstract.

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	The DiamondTouch system is designed so that a display is generated on the DiamondTouch table using a projector. The DiamondTouch table is touch-sensitive, such that touches and gestures on the table have a corresponding effect on the display. There is no genuine dispute regarding these material facts. Thus, the DiamondTouch table discloses a "touch screen display." In his Rebuttal Report, Dr. Balakrishnan argued that a touch-sensitive table with an image displayed using a projector could not be a touch screen display. (Balakrishnan Rebuttal Report at ¶¶115-122.) However, he offered no explanation for this assertion. The DiamondTouch table displays an image on a touch-sensitive surface. Dr. Balakrishnan agreed that the DiamondTouch table was designed to function in this manner. Dr. Balakrishnan offered no basis for construing the term "touch screen display" more narrowly to exclude a projector-based display, let alone providing a criterion for what is and what isn't a touch screen display in his opinion.
[19C] one or more processors;	The DiamondTouch system includes a processor in order to execute the source code for Tablecloth/DTFlash. The source code could not be executed otherwise. Dr. Balakrishnan did not dispute this in his expert report.
[19D] memory; and	The DiamondTouch system includes the computer's in order to store the source code for Tablecloth/DTFlash. The source code could not be stored otherwise. Dr. Balakrishnan did not dispute this in his expert report.
[19E] one or more programs, wherein the one or more programs are stored in the memory and configured to be executed by the one	The DiamondTouch system includes programs for Tablecloth/DTFlash stored in the memory and configured to be executed by one or more processors. Tablecloth/DTFlash could not function otherwise. I have confirmed with Clifton Forlines that there are programs for Tablecloth/DTFlash stored in the memory and configured to be executed by one or more processors.

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or more processors, the programs including:	
[19F] instructions for displaying a first portion of an electronic document;	The DiamondTouch system running Tablecloth/DTFlash discloses instructions for displaying a first portion of an electronic document.  In this example, the electronic document consists of a primary image. Under this example, the electronic document is shown in the screen capture above, outlined in black. Thus, the secondary image is a separate electronic document.

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	 To perform the sequence of elements required by the '381 patent, we first scroll the primary image down (marked with P), and the bottom portion of the secondary image appears at the top (marked with S). The primary image, outlined in black, is the first portion of the electronic document.
[19G] instructions for detecting a movement of an	The DiamondTouch system can detect a movement of an object (e.g., a finger) on or near the touch screen display. The DiamondTouch system running Tablecloth/DTFlash discloses that in response to detecting the movement, the electronic document is translated in a first direction to display a second portion of the electronic

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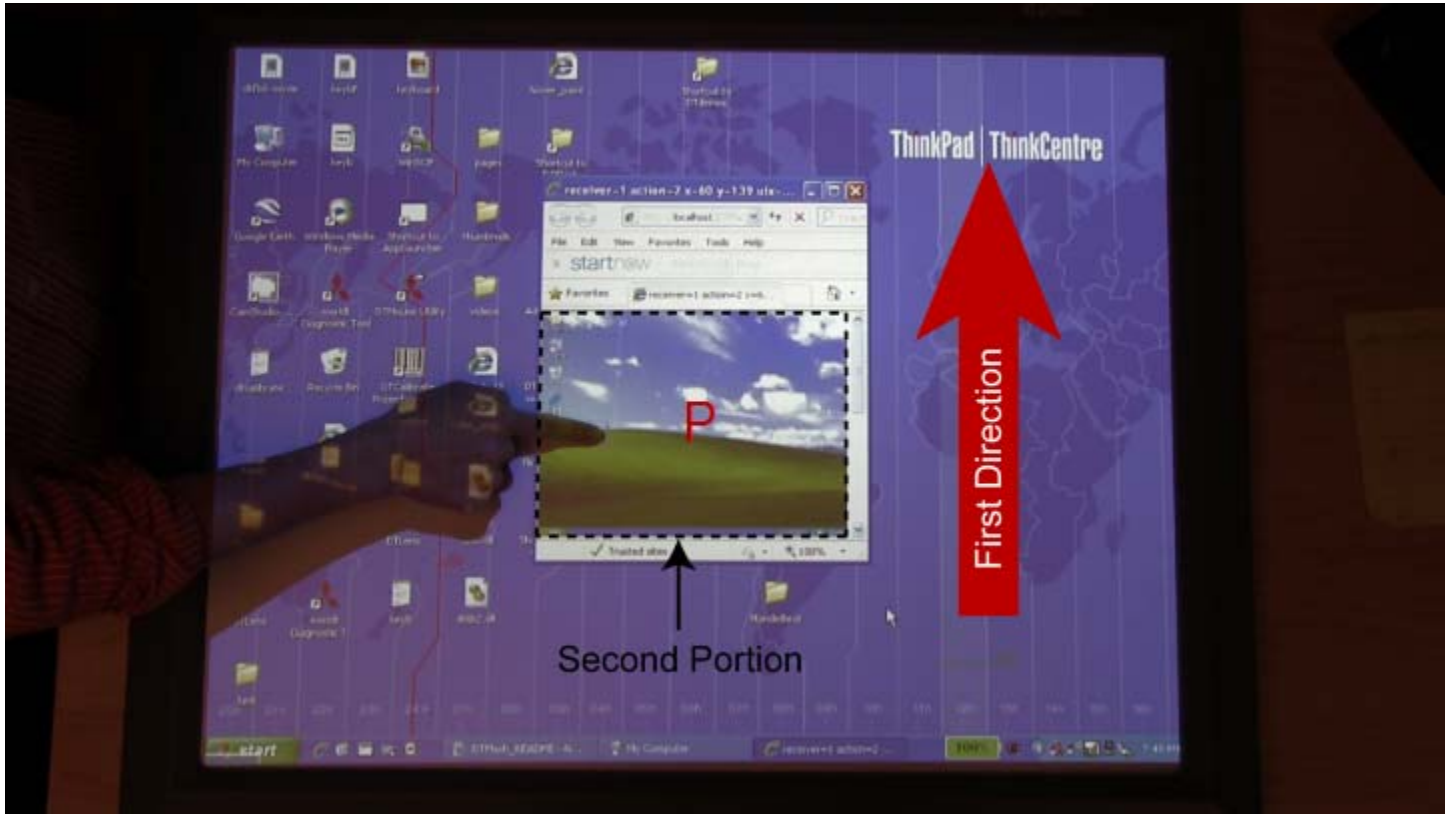
object on or near the touch screen display; instructions for translating the electronic document displayed on the touch screen display in a first direction to display a second portion of the electronic document, wherein the second portion is different from the first portion, in response to detecting the movement;	document, wherein the second portion is different from the first portion. DiamondTouch will detect movement of a finger on the touch screen and translate the electronic document in the direction of the movement of the finger.  Starting at the first portion referenced above, obtained by having previously scrolled the electronic document downward, continuing from this position, if the user moves his finger upward, the electronic document will move upward. A second portion of the electronic document is then displayed. This second portion of the document is different from the first portion of the document. This is depicted in the figure above, which shows

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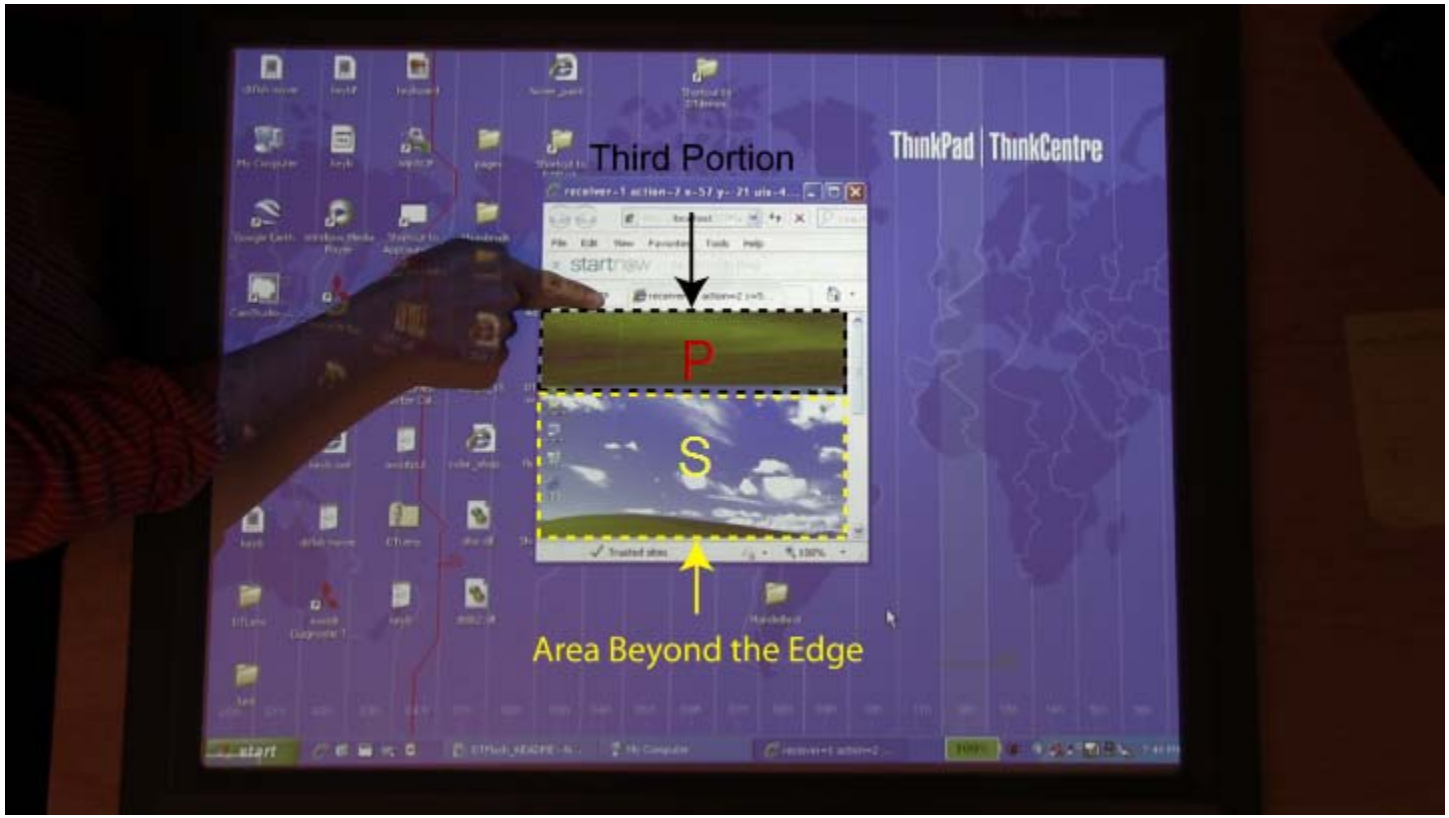
	that the primary image (P) was translated significantly in the first, upward direction, and the secondary image is no longer visible on the display.
[19H] instructions for displaying an area beyond an edge of the electronic document and displaying a third portion of the electronic document, wherein the 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	The DiamondTouch system running Tablecloth/DTFlash discloses that in response to an edge of the electronic document being reached while translating the electronic document in the first direction while the object (e.g. finger) is still detected on or near the touch screen, 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. 

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	As the user reaches the bottom edge of the electronic document while scrolling upward, an area beyond the bottom edge of the electronic document is displayed. That area consists of a top portion of the secondary image (S), which is not part of the electronic document. A third portion of the electronic document is displayed that is smaller than the first portion of the electronic document because the electronic document occupies only a portion of the display. The third portion (outlined in black) and the area beyond the edge (outlined in yellow) of the electronic document are displayed in the picture above.
[19I] 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.	The DiamondTouch system running Tablecloth/DTFlash discloses snap-back, i.e., that 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. If the user lifts his finger while in the process of translating the electronic document, the interface will automatically snap back to realign the electronic document with the display. This snap-back feature is "fatalistic" as characterized by Judge Koh. (Order Denying Apple's Motion for Preliminary Injunction at 60.) If a user scrolls past the edge of the electronic document, the screen will always snap back when the user lifts her finger.

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	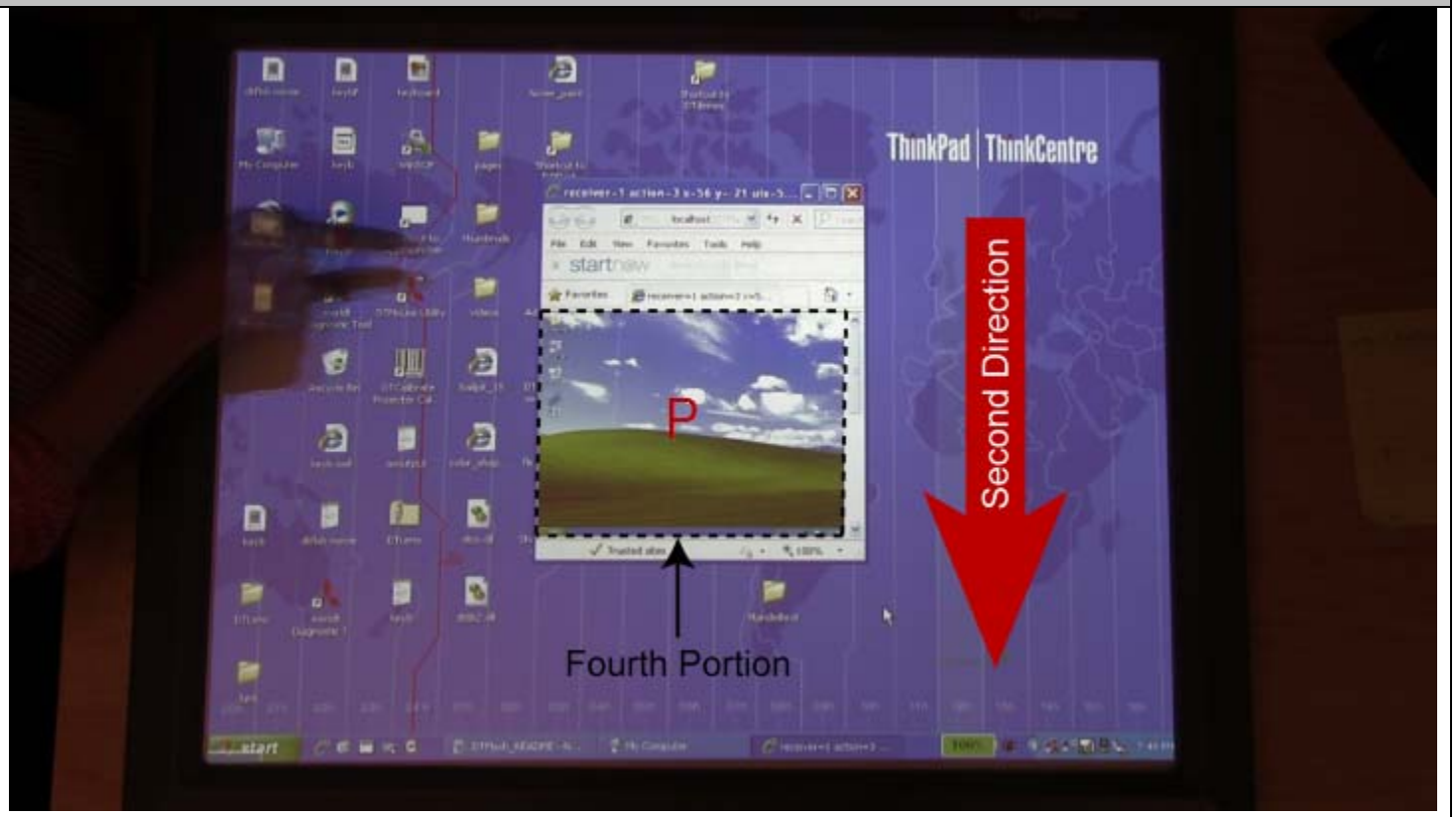 If the user lifts his finger while in the process of scrolling, the interface will automatically snap back to realign the electronic document with the display. This snap-back feature will cause the electronic document to be translated in a second direction, which will be opposite to the first direction, until the area beyond the edge of the electronic document can no longer be seen. As a result, a fourth portion of the document is displayed. The fourth portion is different from the first portion.