

UNITED STATES DISTRICT COURT FOR THE
NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

APPLE INC. and NeXT SOFTWARE)	
INC. (f/k/a NeXT COMPUTER, INC.),)	
)	
<i>Plaintiffs,</i>)	No. 1:11-cv-08540
)	
v.)	
)	Judge Richard A. Posner.
MOTOROLA, INC. and MOTOROLA)	
MOBILITY, INC.,)	
)	
<i>Defendants.</i>)	

ORDER OF MARCH 29, 2012

In my claims construction order of March 19, 2012, I held that the asserted claims of Apple’s U.S. Patent No. 7,479,949 are means-plus-function claims and therefore subject to the requirements of 35 U.S.C. § 112, ¶ 6, including the requirement that the patent’s specification describe “corresponding structure” capable of performing the claimed function. *Biomedino, LLC v. Waters Technologies Corp.*, 490 F.3d 946, 948 (Fed. Cir. 2007). If the specification fails to do this, the claim is invalid as indefinite. *Ergo Licensing, LLC v. Carefusion 303, Inc.*, 2012 WL 987833, at *1 (Fed. Cir. Mar. 26, 2012).

The required level of disclosure is “not a high bar,” *Biomedino, LLC v. Waters Technologies Corp.*, *supra*, 490 F.3d at 950; “a challenge to a claim containing a means-plus-function limitation as lacking structural support requires a finding, by clear and convincing evidence, that the specification lacks disclosure of structure sufficient to be understood by one skilled in the art as being adequate to perform the recited function.” *Budde v. Harley-Davidson, Inc.*, 250 F.3d 1369, 1376–77 (Fed. Cir. 2001).

Patents that claim a means for performing a computer-implemented function, such as the ‘949 patent, must describe the algorithm—a “step-by-step process” —for performing that function, *Aristocrat Technologies Australia Pty Ltd. v. International Game Technology*, 521 F.3d 1328, 1332–33 (Fed. Cir. 2008); see also *In re Katz Interactive Call Processing Patent Litigation*, 639 F.3d 1303, 1314–15 (Fed. Cir. 2011), though they need not disclose computer code for implementing that step-by-step process if a person of ordinary skill in the

relevant technology would be able without difficulty to write a program to implement the steps. *Medical Instrumentation & Diagnostic Corp. v. Elekta AB*, 344 F.3d 1205, 1214 (Fed. Cir. 2003). A patent's specification may disclose structure through diagrams, along with any other format that would communicate the requisite information to one skilled in the art. *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1565 (Fed. Cir. 1991); see also *Typhoon Touch Technologies, Inc. v. Dell, Inc.*, 659 F.3d 1376, 1385 (Fed. Cir. 2011).

Here are the claims, with the terms for construction italicized and preceded by bracketed numbers for ease of reference:

1. A computing 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 one or more programs including: instructions for detecting one or more finger contacts with the touch screen display; instructions for applying one or more heuristics to the one or more finger contacts to determine a command for the device; and instructions for processing the command; wherein the one or more heuristics comprise:

[1] *a vertical screen scrolling heuristic for determining that the one or more finger contacts correspond to a one-dimensional vertical screen scrolling command rather than a two-dimensional screen translation command based on an angle of initial movement of a finger contact with respect to the touch screen display;*

[2] *a two-dimensional screen translation heuristic for determining that the one or more finger contacts correspond to the two-dimensional screen translation command rather than the one-dimensional vertical screen scrolling command based on the angle of initial movement of the finger contact with respect to the touch screen display;*

and [3] *a next item heuristic for determining that the one or more finger contacts correspond to a command to transition from displaying a respective item in a set of items to displaying a next item in the set of items.*

2. The computing device of claim 1, wherein the one or more heuristics include [4] *a heuristic for determining that the one or more finger contacts correspond to a command to translate content within a frame rather than translating an entire page that includes the frame.*

10. The computer device of claim 9, wherein the first set of heuristics comprises [5] *a heuristic for determining that the one or more first finger contacts correspond to a one-dimensional horizontal screen scrolling command rather than the two-dimensional screen translation command based on the angle of initial movement of the finger contact with respect to the touch screen display.*

I have already determined that terms [1] and [2] are adequately supported by structure in the patent's specification, particularly Figure 39C and the associated text. See my summary judgment order of January 16 and my claims construction order of March 19. I construe term [1] as follows, based on Apple's proposed construction:

- Function: determining that the user's finger contacts correspond to a one-dimensional vertical screen-scrolling command rather than a two-dimensional diagonal screen translation command based on the initial angle of the finger's movement on the screen.
- Structure: a heuristic that uses as one input the initial angle of the user's finger swipe gesture and determines whether that angle is within a predetermined range of being perfectly vertical, as shown for example in Figure 39C at 3937.

Ditto for term [2]:

- Function: determining that the user's finger contacts correspond to two-dimensional diagonal screen translation command rather than the one-dimensional vertical screen-scrolling command based on the initial angle of the finger's movement on the screen.
- Structure: a heuristic that uses as one input the initial angle of the user's finger swipe gesture and determines whether that angle is within a predetermined range of being perfectly vertical, as shown for example in Figure 39C at 3939.

The function claimed by term [3] is "determining that the one or more finger contacts correspond to a command to transition from displaying a respective item in a set of items to displaying a next item in the set of items." The structure (if any) that performs this function must be a "heuristic" (i.e., an instruction) disclosed by the structure that

takes as its input a user's finger contacts and determines whether or not the user intends to implement the "next item" command, as when a user flips through photos on an iPhone's camera roll.

Apple argues that the specification provides two such heuristics, both displayed in the patent's Figures 12A and 16A and described in the text accompanying them. Each heuristic takes a certain user input and interprets it as a next item command. The first input is a horizontal right-to-left finger swipe (see Figure 12A's element 1220 and Figure 16A's element 1616), and the second is a finger tap on the right side of the screen (Figure 12A's element 1218 and Figure 16A's element 1620). "Thus, the 949 patent teaches that if a user either makes a right to left swipe gesture on a displayed item, or taps the screen on the right side of the displayed item, the heuristic determines that the command is to transition from the current item in a set of items to the next item." The diagrams provide roughly the same level of detail about term [3] as Figure 39C provides about terms [1] and [2].

Apple runs into problems with the horizontal finger swipe. Claim 1 of the patent claims heuristics for performing three different functions (the three I've discussed thus far): [1] determining whether the user intends to scroll vertically, [2] determining whether he intends to shift the view diagonally, and [3] determining whether he intends to move to the next item in a set. Heuristics [1] and [2] and the associated structure (Figure 39C) explain what rules the device applies to distinguish between vertical and diagonal movement commands: if the user's finger swipe is within a certain range on either side of perfectly vertical, the device implements the vertical scrolling command; otherwise it alters the screen in the direction of the user's finger swipe. According to heuristics [1] and [2], a horizontal finger swipe should be interpreted as a command to shift the screen horizontally (or nearly horizontally, if the finger swipe is not perfectly horizontal). Yet Apple now argues that the same gesture is a distinct command, the next item command. If the same user finger movement is understood to communicate two separate commands, the heuristic fails to perform the function of "determining" which "command" "the one or more finger contacts correspond to." So I reject the horizontal finger swipe as a potential structure for function [3].

But the finger tap heuristic provides the required structure: if the user taps the right side of the screen, the device interprets the tap as a command to display the next item in the set. That is a valid heuristic, like the one for distinguishing between vertical and diagonal movement. I therefore adopt the following construction:

- Function: determining that the user's finger contacts correspond to a command to transition from displaying one item in a set of items to displaying the next item in the set.
- Structure: a heuristic that uses as one input a user's finger tap on the right side of the device's touch screen.

The function claimed by term [4] is "determining that the one or more finger contacts correspond to a command to translate content within a frame rather than translating an entire page that includes the frame." A touch screen device often has to determine whether the user is trying to shift the entire view or just move one object ("a frame") within it.

Apple argues that the specification discloses two separate heuristics for performing this function. The first, disclosed by Figures 42A, 42B, and 42C, determines whether the user means to move just a frame or the entire screen on the basis of the number of fingers the user has swiped along the screen. For instance, the device could interpret the user's swipe of a single finger as a command to translate the whole view screen in the direction of the swipe and interpret a two-finger swipe as a command to move the frame within the view screen while keeping the view screen static. The numbers one and two are only examples, and the structure covers any program that takes as an input the number of fingers used in performing the function.

The second heuristic proposed by Apple as structure for this function would not rely on the number of fingers used but would instead determine whether the user intended to move the entire screen or just a frame on the basis of whether he made a finger motion within the frame (which would shift the frame) or outside of it (which would shift the screen). Apple argues that such a heuristic is inherent in claim 2's language "one or more finger contacts correspond to a command" and is depicted in Figures 42A, 42B, and 42C.

I accept the first proposed heuristic, which is adequately described by the diagrams and the patent's description of them. I reject the second proposed heuristic, for which there is no basis in either the claim language or the diagrams and descriptions. So I adopt this amended version of Apple's proposed construction:

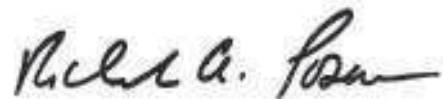
- Function: determining that the user's finger contacts correspond to a command to shift content within a frame rather than shifting the whole page that includes the frame.

- Structure: a heuristic that uses as an input the number of fingers the user has employed in touching the touch screen, as shown for example in Figures 42A through 42C at 4210 and 4214.

The final term for construction is [5], which is in claim 10 and claims the function of determining that the user's finger contacts correspond to a one-dimensional horizontal screen-scrolling command rather than the two-dimensional diagonal screen shift command, on the basis of the angle of initial movement of the finger contact with respect to the touch screen display. This function differs from term [1] only in relating to horizontal rather than to vertical movement. The patent's specification describes adequate structure for performing this function. "In some embodiments, in one heuristic of the one or more heuristics, a contact comprising a finger swipe gesture that initially moves within a predetermined angle of being perfectly horizontal with respect to the touch screen display corresponds to a one-dimensional horizontal screen scrolling command. For example, a finger swipe gesture that initially moves within 27 degrees of being perfectly horizontal corresponds to a horizontal scrolling command, in a manner analogous to vertical swipe gesture 3937 (Fig. 39C)." Col. 111:40-48; see also Col. 75:4-12; Col. 110:31-34.

I reject Motorola's argument (this is the third time they've made it and the third time I reject it) that the structure must be limited to the 27-degree angle used as an example by the specification. It is just an example. I therefore construe term [5] as follows:

- Function: determining that the user's finger contacts correspond to a one-dimensional horizontal screen-scrolling command rather than a two-dimensional diagonal screen-scrolling command based on the initial angle of the finger's movement on the screen.
- Structure: a heuristic that uses as one input the initial angle of the user's finger swipe gesture and determines whether that angle is within a predetermined range of being perfectly horizontal, in a manner analogous to that shown for vertical motion in Figure 39C at 3937.



United States Circuit Judge

March 29, 2012