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Can Apple's Multi-Touch Patent Withstand Scrutiny -- or Challenge?

By [Erik Sherman](#) | February 6th, 2009 @ 11:57 am

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When the U.S. Patent and Trademark Office issued patent number 7,479,949 for a “touch screen device, method, and graphical user interface for determining commands by applying heuristics,” eyebrows shot up throughout the industry. On first glance, it seemed that **Apple** had locked down the concept of a multi-touch interface, posing problems for Palm and anyone else who might want to compete with the iPhone, iPod, and future products. But some more careful consideration suggests that the patent may not be as broad as it seems — and Apple may have missed including some seminal prior art, at least some of which was known to the inventors. That could cause spell problems in trying to enforce the patent.

First, look at the patent text. On one hand, it seems “exceptionally broad,” according to **David Burgert**, partner and litigation group leader of **Porter & Hedges**, a Texas-based IP litigation firm.

It’s an interesting patent, in that there are maybe 293 pages of drawings, and most every page shows an example of a screen shot and showing what gestures and hand motions are going to control the process through that interface. At the end you’ve got maybe 30 pages of text where the great majority describes what is in the pictures.

What is unusual is that there is so much set out in the patent in terms of these illustrations and long descriptions [and] we just have 20 claims. Of those, there are only four independent claims. You’ve got all this data that they claim is their invention and that leads to four invented claims, and the invented claims are all very broad. Whenever you prosecute a patent, you want to make the claims as broad as you can. If it does get into litigation, the judge will look at the patent claims and look at ... what the inventors had disclosed, what arguments [like potential admissions of limitations] the inventors made to the patent office to get the inventions allowed. Then the judge in many cases is going to construe the claims much more narrowly.

The construction of each seems to be distinctly limited in various ways. For example, the first claim includes the limitation of applying “heuristics” to determine whether finger movements are supposed to indicate vertical scrolling of a window or as a command to make a change to the entire screen, based on “an angle of initial movement of a finger contact with respect to the touch screen display.” Some of the claims refer specifically to various finger gestures and how they should be interpreted, like twisting to indicate screen rotation.

“Looking at the claims, they are not trivial,” says **Merchant & Gould** IP attorney **Raymond Van Dyke**. “They look thought out.”

That still leaves the question of whether the claims are legally new and unique, even in a more restricted reading. Trying to judge from the outside whether a patent “should” be valid is a difficult undertaking, according to **Michael Carrillo**, an equity partner at law firm **Neal Gerber Eisenberg**.

For patentability purposes, not everything has to be done for the first time. An invention

may combine existing technology in a unique way to make it patentable. I think this patent may fall into that category. Is it the transistor patent? No. Is it an improvement over existing devices in this area? I'd say yes. The 50,000 dollar question is how much improvement and what's the scope of protection that these claims will offer to Apple. One of the things we can't see is the prosecution history and what pieces of prior art they had to overcome.

"I have not looked at the prosecution history, but it looks like there may be some give and take there in a litigation challenge," Van Dyke says. "I'm surmising from the construction of these claims that there were some changes in the claim language during the prosecution negotiation with the Patent Office." Any claim modifications made to obtain the patent could result in arguments made to avoid infringement.

Multi-touch touch screen interfaces have been around at least since the early 1980s, according to **Bill Buxton**, a principal research at **Microsoft** and an authority on user interfaces. Publicly disclosed devices could sense finger movement and translate gestures. "If I use a pinching gesture to zoom in or out of a map, or zoom or rotate a photograph, that was demonstrated absolutely crystal clear to everybody and anybody by 1983 by **Myron Krueger**," Buxton says. "Furthermore, it was demonstrated later in 1991 by a guy named **Pierre Wellner**."

Perhaps the biggest issue that faces Apple is not if similar things had been done before, but whether the patent application might have omitted prior art that at least one of the inventors had seen. **Wayne Westerman** was brought into Apple when it acquired FingerWorks, the company that Westerman had co-founded. He is listed as one of the inventors on "949" patent.

Westerman's 1999 University of Delaware doctoral dissertation was called "Hand Tracking, Finger Identification, and Chordic Manipulation on a Multi-Touch Surface." It mentions Wellner's work, which Buxton says demonstrated gestures in a multi-touch interface, but the Apple patent references do not. The dissertation bibliography includes Krueger's book, *Artificial Reality II*, but the patent does not.

Furthermore (via TechDirt), Apple itself may be infringing on patents owned by the University of Delaware. If true, it would be hard to claim ignorance, as the original inventors were **John Elias** and Westerman.

Of course, there are a number of questions that come into play, including whether any prior art not cited was actually relevant to the patent application, if prior art was part of general knowledge that needn't be cited, or if someone had honestly forgotten about a reference. But disclosure of material information is a serious issue, and omission can lead to a charge of fraud, called inequitable conduct.

Charges of inequitable conduct are a common tactic in patent litigation. If a defendant in an infringement case can convince a judge or jury that some prior art should have been disclosed, it can be enough to have the patent invalidated. In short, although Apple's multi-touch interface is impressive and innovative, there is the possibility that the legal saber rattling might end up as so much sound and fury, signifying nothing.

Tags: *test, Apple Inc., Microsoft Corp., Patent, Prior Art..., Multi-touch, Claim, No., Wayne Westerman, Dissertation Bibliography*

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