

# Microsoft puts finger on 1ms touchscreen (w/ video)

March 13 2012, by Nancy Owano

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(PhysOrg.com) -- Touchscreen features in smartphones and tablets are satisfying perks in going wireless and mouse-less in mobile computing, but now Microsoft wants to make people aware of how much more satisfying the touchscreen experience might be. In a What-If demo by Paul Dietz of Microsoft Applied Sciences Group, Microsoft is suggesting that a far better experience can be had with a touchscreen display system with far less latency than what users are accustomed to. The video succeeds in suggesting what the speed-up might feel like, from finger to screen. In brief, goodbye to finger lag.

Microsoft's Dietz used a test setup to examine different time periods of latencies, from 100ms down to 1ms in time delays.

As Dietz explained, the numbers have to do with the moment the finger touches the screen and the response of the interacting object to the touch of the finger. With touch devices that have a response time of 100ms, the image is 100 milliseconds behind the finger touch. If that delay could be lowered to 1ms, the user might enjoy a better sense of control, a sense of heightened interaction between user and machine.

This is especially apparent in drawing something on the tablet, as the demo showed. The finger in the speeded-up response was able to “feel” the drawing of squiggly lines, as in the experience of finger painting.

Reactions from the technology press have been agreeable on one point, that mobile users into such activities as gaming or drawing (engineers, architects, scientists as well as artists) would especially recognize the advantages of bringing down latency. Trouble is, a rollout of such low-latency touchscreens is not planned any time soon and might require years, not months, to achieve. In fact, reports *The Verge*, the [demo](#) from the Redmond team “isn't actually running on a [touchscreen](#) display — input reaction is projected onto the surface from above.”

Still, [Microsoft](#) is planning to work on this concept. Its goal is to keep improving on touchscreen technology. The point of the demo, said Dietz, was to show that “What we have done is that we set a bar for where we would like to head” in years to come. He could have added that the video also furthers Microsoft's attempts to rebrand itself. Lagging behind Apple and Google in the mobile marketplace, Microsoft is putting much effort into product introductions to attract a “Kinect” generation of mobile users who will readily respond to novel ways in which humans and objects connect.

As for setting the bar, the impressive demo might give competitors some motivation as well. Matthew [Humphries](#) in *Geek.com* makes the observation that “touchscreen latency will become a selling point for a manufacturer. When the Retina Display resolution demonstrated on the new iPad is the norm, you need another selling point to make your tablet stand out among the competition.” Humphries said he is “pretty sure that 100ms average latency will start dropping as the next few waves of tablet appear.”

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