

fruition. The patent, spotted by [Patently Apple](#), focuses on using radar.

Yes, radar. Astonishing, huh?

This would be a massive change to the multi-touch capacitive touchscreen which went mainstream because of the original iPhone and has been used on every iPhone and iPad (and millions more gadgets) ever since.

The new patent refers to a new touch input to a surface, touchscreen module, mobile terminal or touchscreen computer, among others. By the way, the fact that the words touchscreen and computer are adjacent to each other doesn't mean we can expect a touch-sensitive Mac just yet – an iPad is a touchscreen computer in these terms.



The new radar technology could work on iPhone and iPad screens. DAVID PHELAN

The newly published patent has a bland enough name: “Detecting a Touch Input to a Surface”. Things only get interesting in the abstract:

“A device for detecting a touch input to a surface comprises at least one radar transmitter component configured to transmit electromagnetic radiation in a radio frequency spectrum. The device further comprises at least one radar receiver component configured to receive a portion of the electromagnetic radiation reflected by an object performing the touch input to the surface. The device further comprises a control module configured to receive information related to the portion of the electromagnetic radiation received by the at least one radar receiver component. The control module is further configured to detect the touch input to the surface based on the information related to the portion of the electromagnetic radiation received by the at least one radar receiver component.”

Dry stuff, isn't it? But it promises something very exciting, which Apple has been working on for years. Other companies, notably Google, have also been looking at radar for this kind of technology.

Capacitive touchscreens are highly efficient and effective, so why would Apple be considering something different? The patent says, and I won't subject you to much more of this, honest: “Using radar to detect the touch input to the surface may allow the construction of thinner touch

screens at a cost that may be lower than a cost of capacitive touch screens, resistive touch screens, or other touch screens. Furthermore, through adjustments to a region, in which the touch may be detected, through adjustments to a temporal and/or to a spatial resolution, an energy consumption of a radar-based touch screen may be lower than an energy consumption of a capacitive touch screen. Additionally, larger touch screens may be constructed using radar technology with little or no loss to a precision of the detection of the touch.”

These aren't the only benefits but they are considerable. Thinner touchscreens means thinner iPhones or iPads. Actually, more likely, since both are pretty thin already, it means a fraction more space inside the phone, allowing for a bigger battery, for instance.

And if they're cheaper, then that helps keep down prices. Not to mention the prospect of lower battery consumption because the radar screen is more power-efficient. But it's the last sentence I've quoted that interests me most, the reference to larger touchscreens. This suggests to me that while the technology is relevant for iPhones, it may be even better suited to the iPad.

The patent goes on to explain that radar may be good at spotting an incoming finger before it actually makes contact, like a proximity sensor. While there is some latitude with capacitive sensors for turning proximity sensing up, so that you can use some phones with gloves

on, for instance, it seems that this may be the case with radar, too.

One final thought. The patent also reveals that the surface doesn't have to be a touchscreen, it could be: "a surface, on which the layout of an application or of an input device is projected."

Well, that's a whole new world of touch interfaces. As with all patents, there's no certainty we'll ever see this on any Apple products and as it's been published but not yet granted, I'm sure it won't be in time for this year's iPads or iPhones.

original article:

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