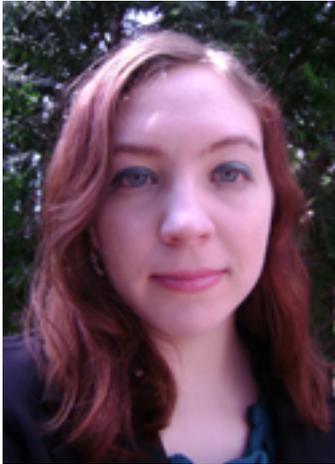


Ubiquitous computing: A gadget for every body part

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As a culture, we're obsessed with cool gadgets, and we've come a long way from the household coffeemaker. Now we're creating motion-sense devices that can control others from afar with just a flick of the wrist. Enter the Myo armband, which shows how dependent on technology we've become. We want to do everything with one fancy gizmo.

Deep down, we all knew that eventually we'd stop trying to carry as many devices around as humanly possible and start wearing them — or surgically implanting them into our bodies.

OK, so we're not quite at that point yet — at least not for anything other than medical purposes. But we are beginning to diversify these technological tools by combining their functions into one super-gadget. Ubiquitous computing, the "Internet of Things," etc. Computers are the new phones. Tablets are the new computers (and phones and pretty much anything else you want them to be, including your personal GPS and camera). There's an app for everything, right?

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Ignoring the security risk (who wouldn't try to rob you for all this high-tech, portable stuff?), we're looking to make these devices smaller and wearable and multiply the ways we can stay connected. Myo is linking us to our possessions with one simple, fashionable solution.

But it's only one sign that we're moving into an always-on future, whether we're ready for it or not. [Google Glass](#) [1] eyewear is another example. We want to be able to access the virtual world anytime, and we may not achieve that until it's literally a part of us. We're slimming these devices down and, well, going *chic*. Nerdy has been cool for a while now; we're just making it more practical.

And yes, even if you're as blind as I am without my contacts, Google [has you covered](#) [2] with prescription-based options. You can be trendy and efficient at the same time. That's multitasking.

With each new breakthrough, we're tearing down the physical barriers that exist between us and technology. The more integrated we are, the better. It's all about how fast we can "jack in." Let's hope our version of the Matrix is a little less scary.

This vision for the future means that stationary, sensor-based gadgets are a problem. How can you take the world with you when you have to stand no more than [nine feet away](#) [3] for a device to work properly?

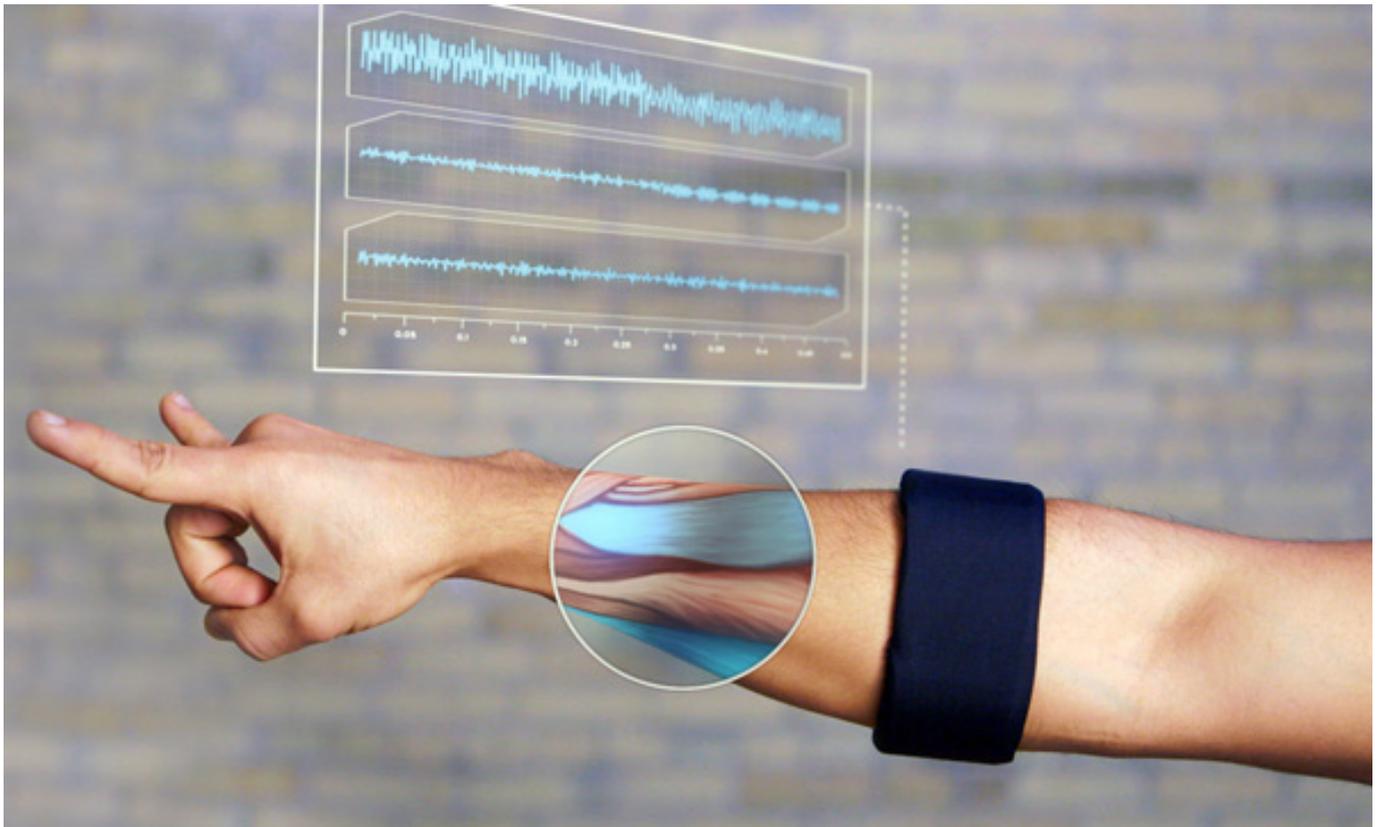
That's where Myo (Greek for "muscle") comes in. Stephen Lake, a 23-year-old engineering student from Ontario's University of Waterloo, [invented](#) [4] the plastic, one-size-fits-all armband so users can perform gestures to control gadgets remotely –without losing accuracy. It works by detecting motion and monitoring electrical impulses that move from the brain to the hand and arm muscles. Software then "reads" these signals and translates them into commands.

Because the electrical impulses fire before your fingers actually move, the armband

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can sometimes detect gestures before any bodily movement is noticeable. The response can be instantaneous.



This is gesture control minus the camera lens, and the range is much greater. The armband uses Bluetooth 4.0 low energy — which is low-cost, long-lasting, and works wirelessly up to 164 feet — to communicate with whatever it's paired to. So we're not exactly talking long distance here, but that could happen later. Myo also features an open API, so developers can build it into whatever they want. It could hypothetically work with almost any device you own.

For example, Myo is compatible with PCs and phones and has many other applications, as you can see from this promotional video. It's even able to replace keyboard and mouse controls in the classic computer game *Counter-Strike*. Currently, it supports Windows, Mac, iOS, and Android operating systems.

[Leap Motion](#) [5] is doing something similar with its controller, which lets you interact with a computer just by pinching the space in front of you or waving your hands in the air.

Lake's 15-employee startup, Thalmic Labs, has counted about 25,000 preorders of the armband so far at \$149 apiece. The next batch is shipping in early 2014.

The company told ECN that it hasn't yet revealed how many devices the armband can sync with, but it plans to do so soon through its developer mailing list.

As for how gestures work, director of developer relations Scott Greenberg told us

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that they "will be simple actions that many people would do every day, like snapping or pointing. Myo will come with a basic configuration which users can modify afterward to suit their preferences."

Now, if this could master-control every device at once, from microwaves to television, even when you're miles away, I'll be good to go. No more wondering if the oven is still on.

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