

Moving Objects with Your Mind

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Brain imaging equipment has been around since the 1930s, but we have made very little progress in understanding the human brain, explains Tan Le, Founder and CEO of Emotiv Insight. With almost a decade of experience in the field, she hopes to change this.

View: [Mind-Reading Headset Monitors Brainwaves](#) [1]

“We were interested in the brain intrinsically; I think a lot of people are, but one of the biggest challenges is creating technology that is easy to use, affordable, and wearable. It needs to look exciting and interesting enough so that people would actually want to wear it,” Le explains.

Le’s response to this challenge is [the Emotiv Insight](#) [2], a 5-channel, wireless headset that allows the user to monitor their brainwaves. More than a brain/computer interface, Insight incorporates performance metrics to analyze brain fitness. “Instead of tracking the number of steps that you’re taking, it tracks your cognitive performance so you can get a better understanding of your mental health,” says Le.

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Insight works by sensing electrical impulses in the brain and translating them into commands. Le explains, “When you think push, the system will understand that you are trying to push. You can then assign that action to anything, such as pushing a car to drive it forward, turning on a light, or walking in a computer game.”

The device can interpret other commands such as pull, levitate, and rotate. It can even sense blinks, winks, frowns, smiles, surprise, and a clench by detecting activity from muscle signals around your face and head.

Applications for the Emotiv technology span a variety of industries, including:

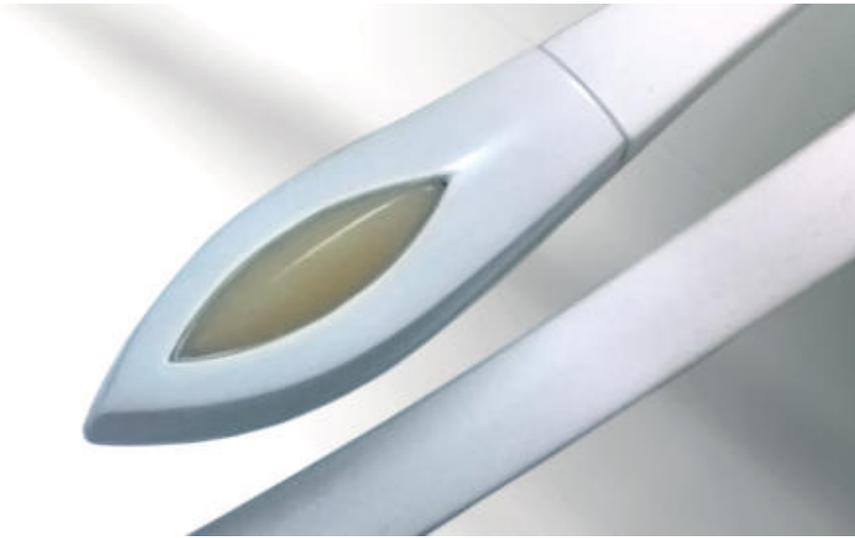


- Gaming
- Interactive television
- Everyday computer interactions
- Hands-free control systems
- Smart adaptive environments
- Medicine
- Robotics
- Transport safety
- Defense and security

The design challenge was creating something that was easy to use, but that could still achieve the robust signal that was needed. “The product was designed from the ground up. Everything from the sensor technology to the electronics has really been designed and optimized for this new sensor material,” Le says.

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This new material is a polymer sensor made from a hydrophilic material, which helps establish a good conductive path, allowing the device to have spatial resolution of the cerebral cortex across key functional brain areas. This new sensor also does not require any conductive gel so no preparation is required.

Thanks to the overwhelming support from Kickstarter backers, the Emotiv Insight reached its stretch goal of one million dollars. With this goal, the device will now come standard with a 6-axis inertial sensor.

By providing more affordable access and an open platform, Le hopes to see an increase of involvement in the field. “We hope to empower individuals to understand their brain and improve their fitness and performance, and to marketize the space around brain research,” she explains. “We hope that people will adopt this technology.”

With more than a million dollars pledged, and 20 days to go, it seems clear that people are more than ready to embrace the Emotiv Insight and all that it has to offer.

To support Tan Le and the Emotiv Insight, visit www.kickstarter.com [3].

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[1] <http://www.mdtmag.com/videos/2013/08/mind-reading-headset-monitors-brainwaves#.UhzKrn-LZm4>

[2] <http://emotivinsight.com/>

[3] <http://www.kickstarter.com/projects/tantle/emotiv-insight-optimize-your-brain-fitness-and-per>