Samsung Demos a Tablet Controlled by Your Brain

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One day, we may be able to check e-mail or call a friend without ever touching a screen or even speaking to a disembodied helper. Samsung is researching how to bring mind control to its mobile devices with the hope of developing ways for people with mobility impairments to connect to the world. The ultimate goal of the project, say researchers in the company's Emerging Technology Lab, is to broaden the ways in which all people can interact with devices.

In collaboration with Roozbeh Jafari [1], an assistant professor of electrical engineering at the University of Texas, Dallas, Samsung researchers are testing how people can use their thoughts to launch an application, select a contact, select a song from a playlist, or power up or down a Samsung Galaxy Note 10.1. While Samsung has no immediate plans to offer a brain-controlled phone, the early-stage research, which involves a cap studded with EEG-monitoring electrodes, shows how a brain-computer interface could help people with mobility issues complete tasks that would otherwise be impossible.

Brain-computer interfaces that monitor brainwaves through EEG have already made their way to the market. NeuroSky's headset uses EEG readings as well as electromyography to pick up signals about a person's level of concentration to control toys and games (see "Next-Generation Toys Read Brain Waves, May Help Kids Focus [2]"). Emotiv Systems sells a headset that reads EEG and facial expression to enhance the experience of gaming (see "Mind-Reading Game Controller [3]").

To use EEG-detected brain signals to control a smartphone, the Samsung and UT Dallas researchers monitored well-known brain activity patterns that occur when people are shown repetitive visual patterns. In their demonstration, the researchers found that people could launch an application and make selections within it by concentrating on an icon that was blinking at a distinctive frequency.

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[1] http://www.essp.utdallas.edu/People/RoozbehJafari
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