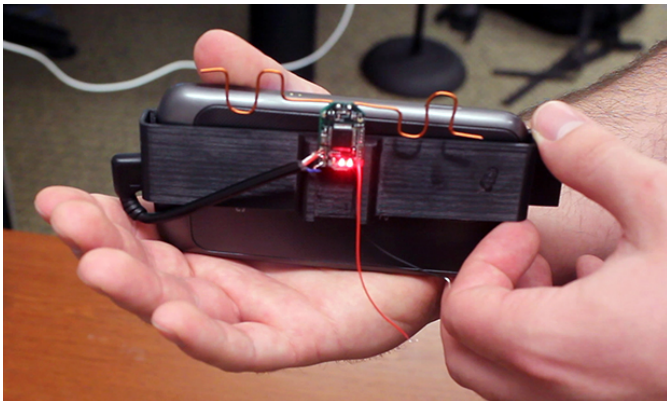


Gesture Recognition for All Devices

Written by Marco Attard
05 March 2014

University of Washington researchers hope to revolutionise gesture-based control with AllSee, a gesture recognition technology using existing TV signals for control that's both low-power and low-cost.



"This is the first gesture recognition system that can be implemented for less than a dollar and doesn't require a battery," UW assistant professor Shyam Gollakota says. "You can leverage TV signals both as a source of power and as a source of gesture recognition."

AllSee consists of a small sensor one can place on electronic devices. It uses an ultra-low-power receiver able to extract and classify the amplitude changes specific gestures cause in wireless transmissions in the air, translating them into commands.

The same wireless signals also provide a power source, meaning the AllSee sensors run without need for batteries.

Some existing smartphones, such as the Samsung Galaxy S4, already feature gesture recognition-- but such systems are camera-based, and are something of a power hog. On the other hand the UW system consumes just "tens of microwatts of power" and, best of all, needs no line of sight to operate with up to 60cm range.

A demo video has a researcher controlling the volume of a smartphone inside his trouser pocket by simply moving his hand up and down.

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The researchers add AllSee can also be incorporated in household electronics and so-called "Internet of Things" devices for gesture-based control of thermostats and the like.

AllSee actually builds on a previously featured gesture detection technology-- [WiSee](#) , a technology leveraging wifi signals to detect control gestures. However AllSee is more ideal for mobile device use, since it requires far less power to operate.

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