



## **SLAP Widgets: Transparent Controllers Let You Feel Virtual Table Interfaces**

There are plenty of interactive tables at CHI this year — they are a hot topic in interface research these days; not the least because Microsoft recently released their own "Surface" table model. But what most of those tables are missing is haptics: Touching a multi-touch table surface to sort photos or resize maps is great, but try using it without looking, and your fingers will quickly wander off that on-screen virtual button, slider, or keyboard.

SLAP changes this — by letting you put real, physical knobs, keyboards, and other controls right onto the table. Being able to feel those controls makes it much easier to use them without looking.

The trick: SLAP controls are made from silicone and acrylic, so they are transparent, and the computer inside the table can detect their position on the table surface and project the right labeling right onto those controls from underneath. This makes it easy to, say, relabel a SLAP Keyboard from US to German keyboard layout, or to make a SLAP Button look like a Play button to control videos in one instant, and the next moment turn it into a button to save a file.

But how do SLAP controls know what they should be controlling? Easy — just double-tap your finger, say, next to a SLAP Keyboard and on a text editing window at the same time, and the two are connected: whatever you type on the SLAP keyboard will end up in the text window.

This way, SLAP controls bring haptic and tactile feedback back into the world of virtual, on-screen table interfaces, combining the advantages of physical and on-screen controls. And since they are just passive objects, with no electronics, they are simple, robust, and cheap — something researchers and designers will appreciate when prototyping the tabletop applications of the future.

For more information, visit: <http://hci.rwth-aachen.de/slap>

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