

# **New acoustic alternative for touchscreen phones in development**

April 19 2011, by Bob Yirka

---

(PhysOrg.com) -- Acoustic engineers have for years been tinkering with the idea of using pulse recognition as a means for interacting with machines, but until now, little progress has been made in converting such ideas into a working device. Now, Jens Christensen, of Cambridge University, has won the Innovation for Sustainability category as part of the Information and Communications Technology (ICT) Pioneer awards from the Engineering and Physical Sciences Research Council (EPSRC) in London, for his TouchDevice which uses software to convert a regular cell phone into one capable of carrying out many touchscreen features.

Christensen, now with InputDynamics, went on to win the overall prize in that competition, and is now working with his new colleagues to improve on his design. It should be a good fit, as InputDynamics is a firm dedicated to bringing the functionality of high-end smartphone technology to the masses.

The TouchDevice works by capturing the sound of tapping on the screen, or any other part of the phone, by the phone's already existing microphone, and then interpreting those sounds using the software Christensen wrote while still a PhD candidate. The software can be run on any current feature (non-smart) phone so long as it has a processor. In a sense it's a modified form of echo-location that some blind people use to find their way around their environment.

One drawback of the TouchDevice is that it has to be trained for use before it can be used to teach the software where each of the sounds it

hears is coming from on the phone, another is that temperature can affect the sounds that are produced by tapping, which can throw the [software](#) into confusion. Also, there is the problem of double-clicking or dragging and dropping icons. Christensen, along with new boss, Giovanni Bisutti, are confident however, that these hurdles can be overcome and expect to have a product on the market in short order. InputDynamics has received a government grant and seed money from Cambridge University's commercialism office to help develop the new technology.

In addition to being used to make “dumb” phones touch sensitive, the new acoustic technology could also conceivably be used by other devices as well; a microphone could be embedded in a wall, for example, doing away with switches, or a pad could be developed that makes different sounds when you tap on it; sounds that could be captured and used to control a home entertainment system perhaps.

If the TouchDevice works out as planned, there is a hefty market for it, with over a billion feature phones sold just last year. Christensen envisions an app for phones running Google's Android operating system running in the very near future.

**More information:** [www.inputdynamics.com/Home.html](http://www.inputdynamics.com/Home.html)

© 2010 PhysOrg.com

Citation: New acoustic alternative for touchscreen phones in development (2011, April 19) retrieved 20 May 2024 from <https://phys.org/news/2011-04-acoustic-alternative-touchscreen.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.