Elliptic Labs powers up ultrasound for touchless gesturing

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Touchless gestures powered by ultrasound has become a mark of distinction for Elliptic Labs. The company has new "Multi Layer Interaction" technology designed to bring users intuitive device interactions.

Without touching the device, the person's hand moves towards the smartphone, the screen lights up and information is displayed. As the person continues moving the hand closer, different information is revealed. With users constantly, frequently, eagerly reaching for their devices throughout the day, Elliptic Labs aims to make a difference in its easy and fast way to get information, from playing games to navigating maps, to using social media, to watching videos. A promotional video says the user can interact above, in front, underneath, double-tapping anywhere around the device, easily turning the device on and off as well. There is an SDK kit for applications. How it works: Ultrasound signals sent through the air from speakers integrated in smartphones and tablets bounce against the hand and are recorded by microphones integrated in the devices. As such, the technology recognizes hand gestures and uses them to move objects on the screen, similar to how bats use echolocation to navigate.

The company also talks about range-gating capabilities, saying that their touchless gesturing technology can easily separate foreground from background, for separating finger motion from wrist, and hand motion from movements or reflections from the body. This prevents unwanted and accidental gestures from being recognized. Overall, the company believes that "Ultrasound offers the best combination of high resolution, 180-degree interaction space, and low power consumption compared to camera or other sensing technologies." They use an ultra-low power audio SoC for ultrasound processing such as Wolfson audio hubs. They have formed partnerships with Murata Manufacturing and Wolfson Microelectronics.

CNET's Tim Stevens saw the Elliptic Labs technology in action at CEATEC 2014 in Tokyo and on Wednesday wrote that "We were also able to lock the screen simply by 'tapping' twice in midair and swipe through a photo gallery by waving our hand about with noble dignity. Everything worked and worked well, despite the constant drone of a

busy exhibition hall."

He noted that "The field of interactivity is far larger that the device itself, extending out to 180 degrees around." (Microphones and transmitters sense movement in front of a screen and to the sides, enabling an interaction zone extending over the screen and beyond the sides.) He said the tech works well even if the user is wearing gloves.

According to the company video, "We work with OEMs, all over the world, and we have offices in China, Norway and Silicon Valley." For device makers, said Stevens, adoption should be relatively easy, with a Murata-made transducer that is 5.2mm square and consumes less than one milliwatt of power. "That means phones won't need to get much bigger to make this work, and having it on all the time won't kill your battery life."

Elliptic Labs CEO Laila Danielsen, according to CNET, did indicate that "more than one" mobile device manufacturer has licensed the tech, and that it will appear on smartphones and tablets next year.

More information: www.ellipticlabs.com/?p=4396