

# Mechanical third thumb offers extended hand abilities

July 7 2017, by Bob Yirka

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Credit: Dani Clode

(Tech Xplore)—Dani Clode, a grad student at the Royal College of Art in London, has created what she calls the "Third Thumb"—a system that adds a mechanical thumb to the opposite side of a natural thumb on a

human hand. She showcased her invention at this year's RCA graduate exhibition.

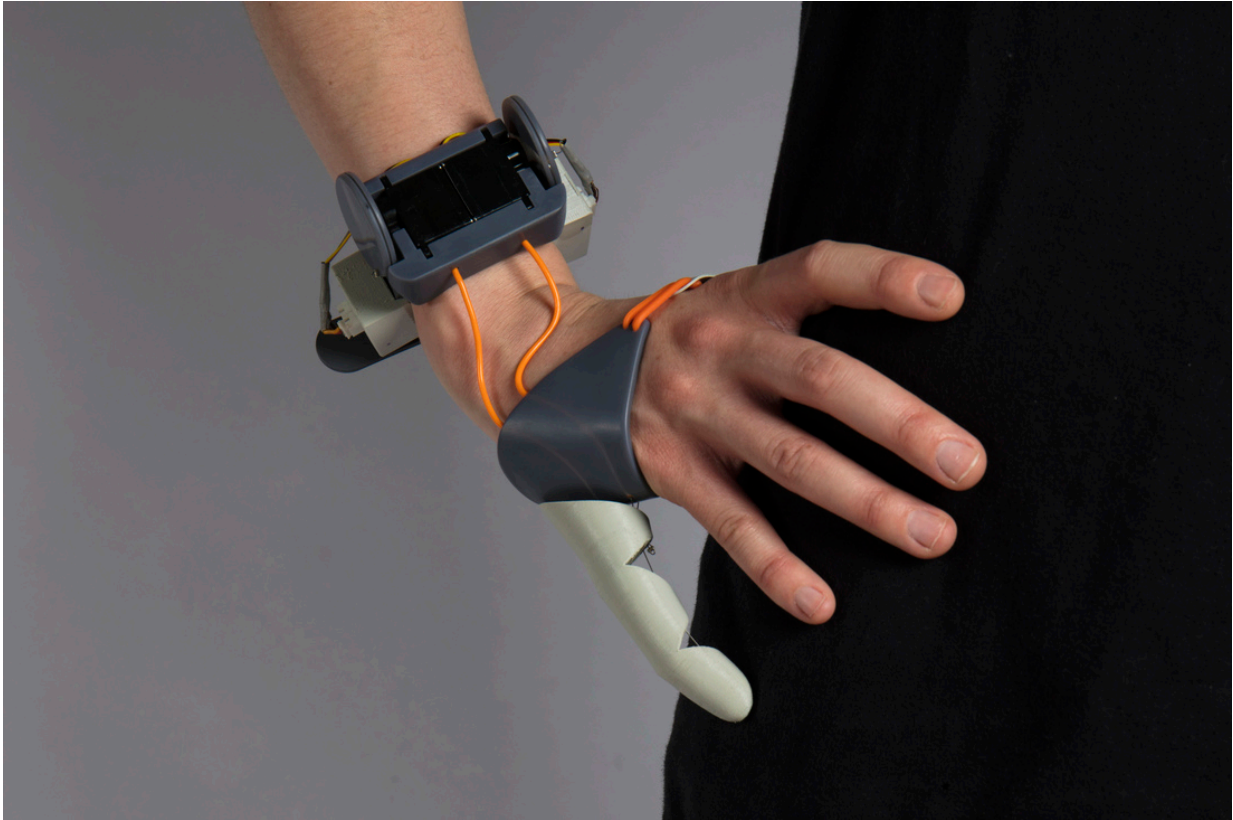
What is perhaps most intriguing about the prosthesis are the reactions of the people trying it in the video Clode made to demonstrate how people can use it—everyone smiles in delight, as if suddenly realizing they have been missing that extra thumb their entire lives. As she notes, people adapt to it rather quickly and soon use it to hold extra playing cards, eggs when cooking or for making up new chords when playing guitar.

Perhaps just as interesting is how simple the system is. It is made of a bracelet to hold the servo motors, tiny ropes that connect to the thumb that control its movement, the thumb, and sensors that sit in the user's shoes. The user exerts different amounts of pressure with either foot to activate the thumb. Signals are sent from the sensors to the bracelet via Bluetooth. The thumb was made via 3-D printing, which allows for customization—users can print one to fit the size of their hand. The material is a type of plastic called Ninjaflex.

Clode has told members of the press that her intention in creating the thumb was to extend the concept of a prosthesis, noting that the original meaning of the word meant to add something new, not to replace something lost. The thumb she has created not only adds a sixth digit to the hand, it adds functionally that people discover gradually as they grow accustomed to wearing the device. It is not difficult to imagine smaller future iterations as engineers set to work on it, or sensors placed in different locations to move the [thumb](#). But most of all, it is not difficult at all to imagine the Third Thumb going mainstream—a game-changing device like the first iPhone.



Credit: Dani Clode



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**More information:** [www.daniclodedesign.com/thethirdthumb](http://www.daniclodedesign.com/thethirdthumb)

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