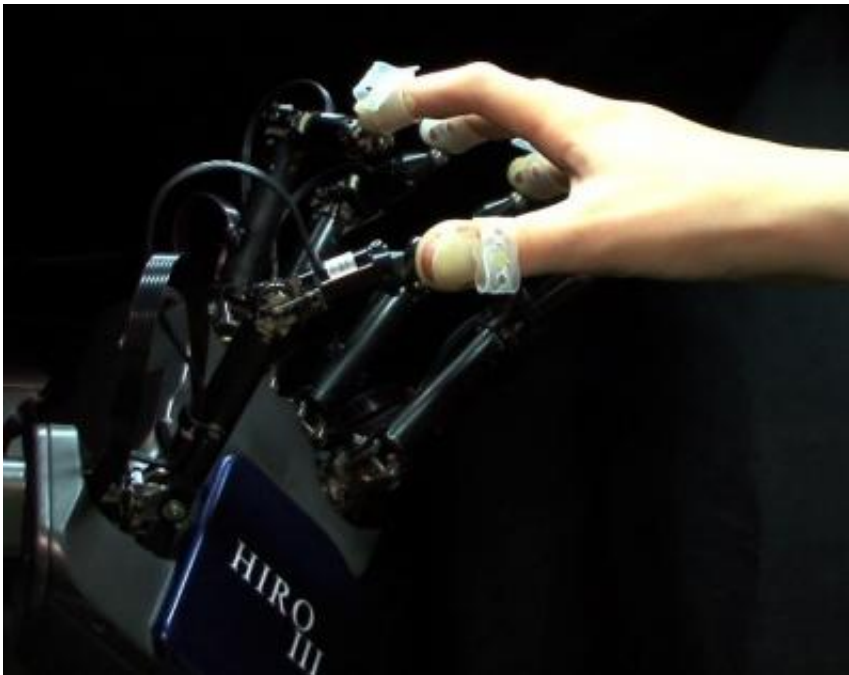


HIRO III lets you feel what you see on screen (w/ Video)

July 2 2010, by Lin Edwards



(PhysOrg.com) -- Researchers in Japan are developing a new touch screen system, the HIRO III, that incorporates a robot hand that could offer a new way of simulating the touching of virtual objects and receiving feedback from them.

Scientists from Gifu University's Kawasaki and Mouri Laboratory at Gifu in central Japan, say the HIRO III is a "haptic interface robot,"

which can transmit realistic sensations of touch to a user's [fingertips](#). The [touch screen](#) uses a 3D display to provide the [visual stimulus](#).

The robot is an arm and hand with five fingers to which the user's own fingers are strapped. The robotic fingers give the user tactile sensations simulating the textures of surfaces, size of virtual objects and a sense of weight. The system is integrated with a three-dimensional display that includes an image of the user's hand. The hand on the screen appears to be in the same position as the user's own hand, which could make the experience seem very realistic.

Each robotic fingertip has fifteen degrees of movement and the arm has six, which allows it to operate in a relatively large space under the screen. The robot's movements are controlled by fifteen motors running simultaneously.

The device could be used in applications such as controlling robotic arms in factory work, and for simulating procedures for medical diagnosis training. At the moment it is still at the experimental stage and the researchers are concentrating on its potential use in teaching medical students how to carry out tactile screening for [breast cancer](#).

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