

## Physician, glove thyself: Med Sensation has exam tool (w/ Video)

August 31 2012, by Nancy Owano

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(Phys.org)—An effort by two engineers and a medical student has

resulted in a second glove prototype designed so that doctors can use it as enhanced data. The idea is to enable doctors to quantify touch, said Elishai Ezra, a graduate in engineering and one of the glove creators. The inventors now operate with their own company, Med Sensation. Their sensor-laden glove can perform physical examinations that can help doctors serving patients or even directly support self-administering patients to find out more about their health.

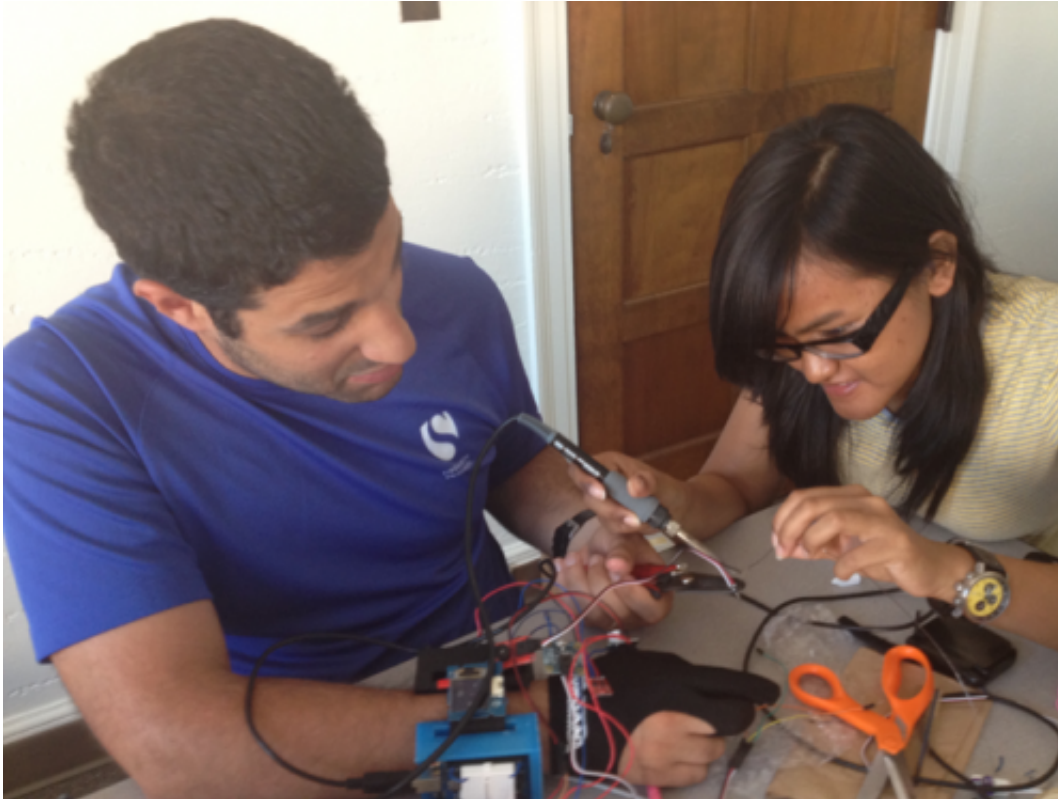
This Glove Tricorder carries [sensors](#) that can detect vibrations, sound, and temperature, and it also features an [accelerometer](#) and a buzzer system when immediate attention is required. That does not mean that the buzzer is for the patient to call an ambulance or for the doctor to send the patient immediately for surgery. Rather, the buzzer system may sound if the glove operator applies too much pressure on the examined tissue.

If the Glove Tricorder were in a training scenario, a trainee who squeezes too hard, or whose hand is in the wrong position, would send appropriate feedback to an instructor via this glove.

The system has a data protocol that allows the data to be transferred wirelessly. In their design, all the information derived from the glove-guided examination is wirelessly transmitted to an outside device. They assembled all the features with a custom design and [electrical circuits](#). Data that comes from the sensors is analyzed and framed into one single communication port using the serial data protocol.



Med Sensation is a project that spun out of a Singularity University's graduate studies program. At Med Sensation, the initiators, Harvard [medical student](#), Andrew Bishara, and engineers, Elishai Ezra and Fransiska Hadiwidjana, plan further developments. A new, third version will come with [ultrasound](#), pads on the glove's [fingertips](#) so that doctors can see the inside of the breast, for example, in a breast exam, as they manipulate the tissue.



The Med Sensation team see the glove at work in a number of settings. For medical education, the glove can be used as an instructive tool to help doctors improve their skills in patient examinations. Doctors might use the glove in their own offices. Eventually the team hopes to make a consumer version that would allow physical self- examinations. Those in sports could use the glove to assess sports injury and women might use the gloves to spot abnormal lumps, or assess abdominal pain, or, with the eventual placement of ultrasound pads, heart abnormalities, in the glove's next iteration.

**More information:** [medsensation.com](http://medsensation.com)

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