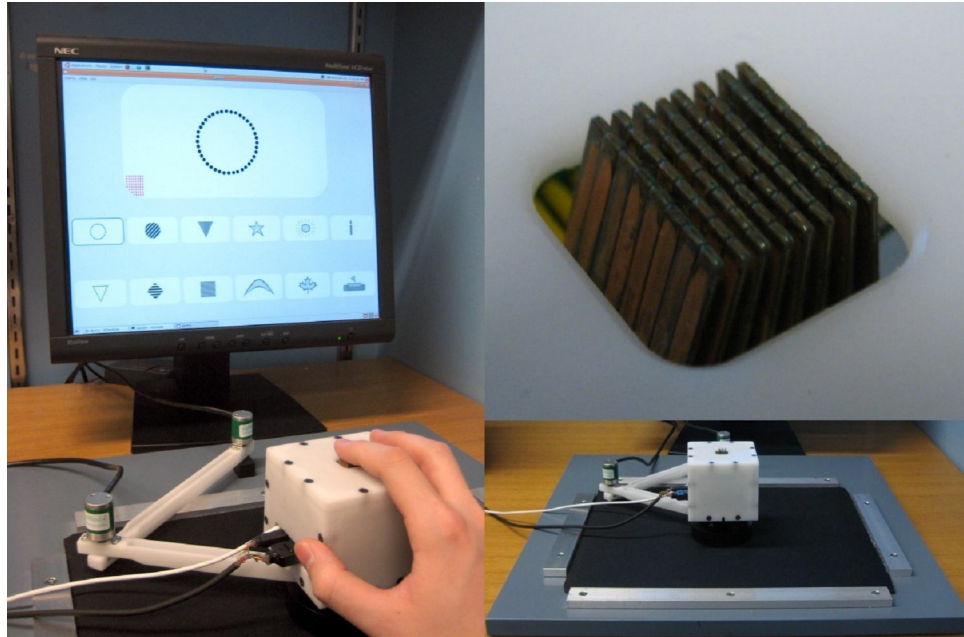


Refreshable Tactile Graphics with the STReSS² Laterotactile Display

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This demonstration will allow visitors to feel virtual tactile graphics rendered with the STReSS², a tactile display that relies on lateral skin deformation to produce tactile sensations. The display consists of a fingerpad-sized array of 8 by 8 laterally moving actuators that are programmed to produce deformation patterns in response to movements of the device over a letter-sized workspace (approx. 28 by 22 cm). Tactile graphics are drawn using three tactile rendering methods that respectively produce virtual dots, virtual gratings, and localized vibrations. Despite resulting from lateral deformation rather than indentation, virtual dots and gratings give a convincing illusion of brushing against raised dot patterns and embossed undulating textures. Localized vibrations produce less natural but stronger, sharper sensations. Visitors will be invited to explore a variety of tactile graphics produced by combining these three rendering methods, ranging from simple shapes to more complex illustrations. A similar demonstration of this technology was recently awarded the best demonstration prize at the 2008 Haptics Symposium in Reno, Nevada. More details on this work can be found on the project webpage at laterotactile.com.