Live Sculpting

Electronic Skin

By Ariel Toussaint Bournes

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- What information does it relay?
  - When placed on a forehead, electronic skin records and relays brainwave information; when placed on the wrist it records and relays information about blood flow and muscle movement.

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- The original intended use for the technology was to replace bulky equipment used to monitor vital signs in hospitals, granting the patients mobility.
  - The elasticity of electronic skin, which has been recently achieved by decades of silicon research(serpentine circuitry), has opened the door to endless amounts of real world applications.

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  - New prospective users include athletes, government special agents(It can be used as a cell phone while on neck), and soldiers.

The Technology: Electronic Skin

- Fascination/Fear of the Cyborg

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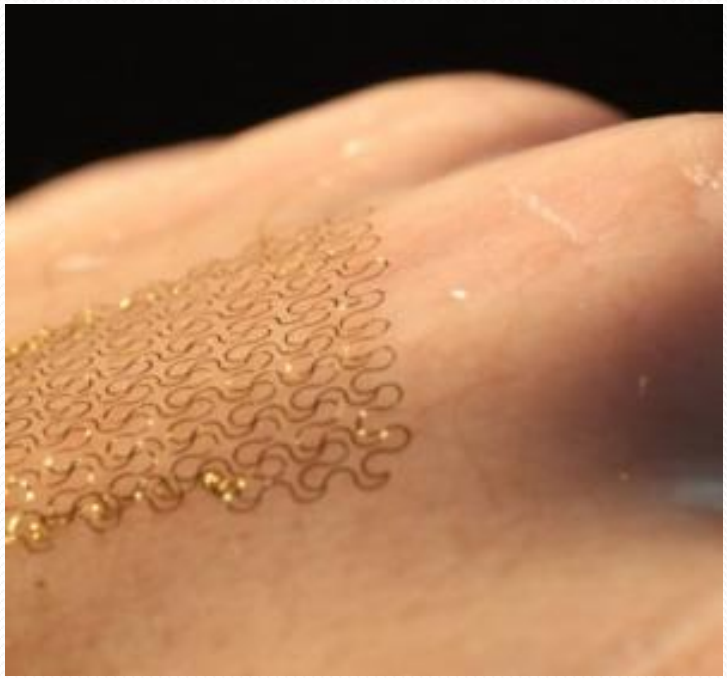
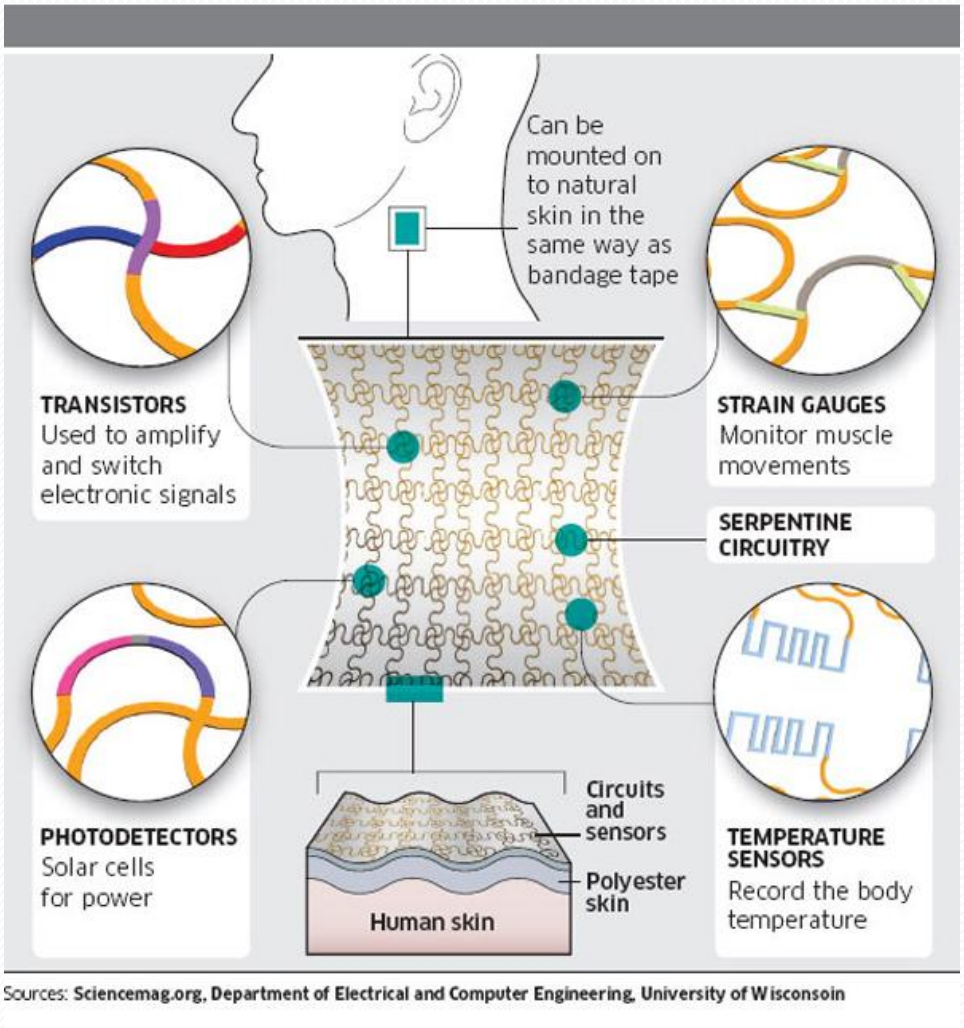
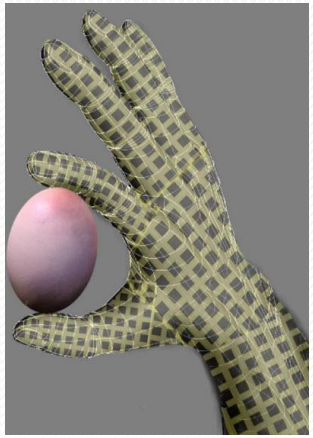
- Fascination/Fear of the Cyborg
- What electronic skin actually looks like



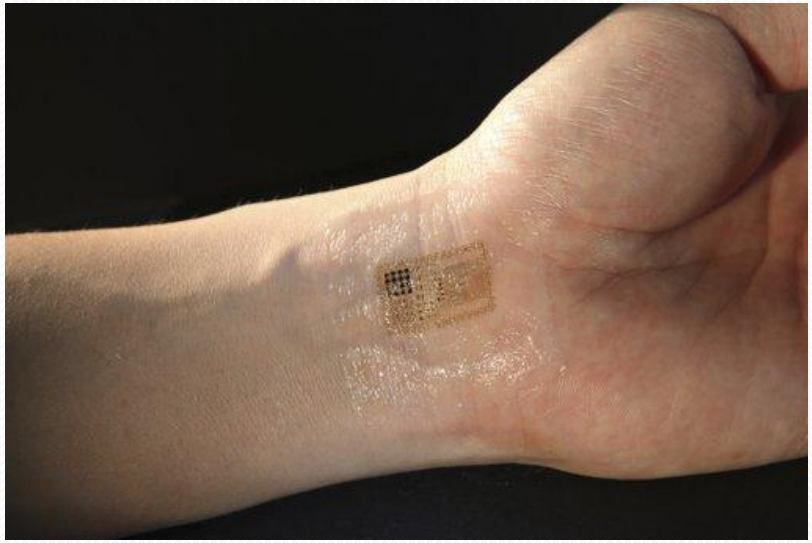
Application/Removal: http://www.youtube.com/watch?v=boGUo-wseHY

The Technology: Electronic Skin





Full body application (left) is not necessary. Fits on wrist.



Electronic Skin: Artistic Application

- Proposal: Electronic skin, combined with Electronic Muscle Stimulators: build ,record and monitor the body and well being of a human being.(Live Sculpting).
- Re-interprets and explores interactivity in sculpture popularized by Duchamp's rotary glass plates .
- Grants the often passive or minimally involved viewer total control over **and** responsibility of the sculpture, which in this case happens to be a living being (Me).

Electronic Skin: Artistic Application

- Problem: Commercially available Electronic Muscle Stimulators are not scientifically proven to work. Ems's work in cooperation with full muscle movement, not by themselves.

- In order to grant the viewer full control over the muscle growth, the EMS would need full body motion control.

Electronic Skin: Artistic Application

- Essentially, the project will have to incorporate a technology of muscle stimulation similar to that used by performance artist Stellarc.
- There is already work being done to convert electronic skin patches to electronic muscle stimulators. A multi patch application of the electronic skin is less discreet than the creators of the technology would like, but artistically, it would offer full body control with much less wiring than Stellarc.

Electronic Skin: Artistic Application

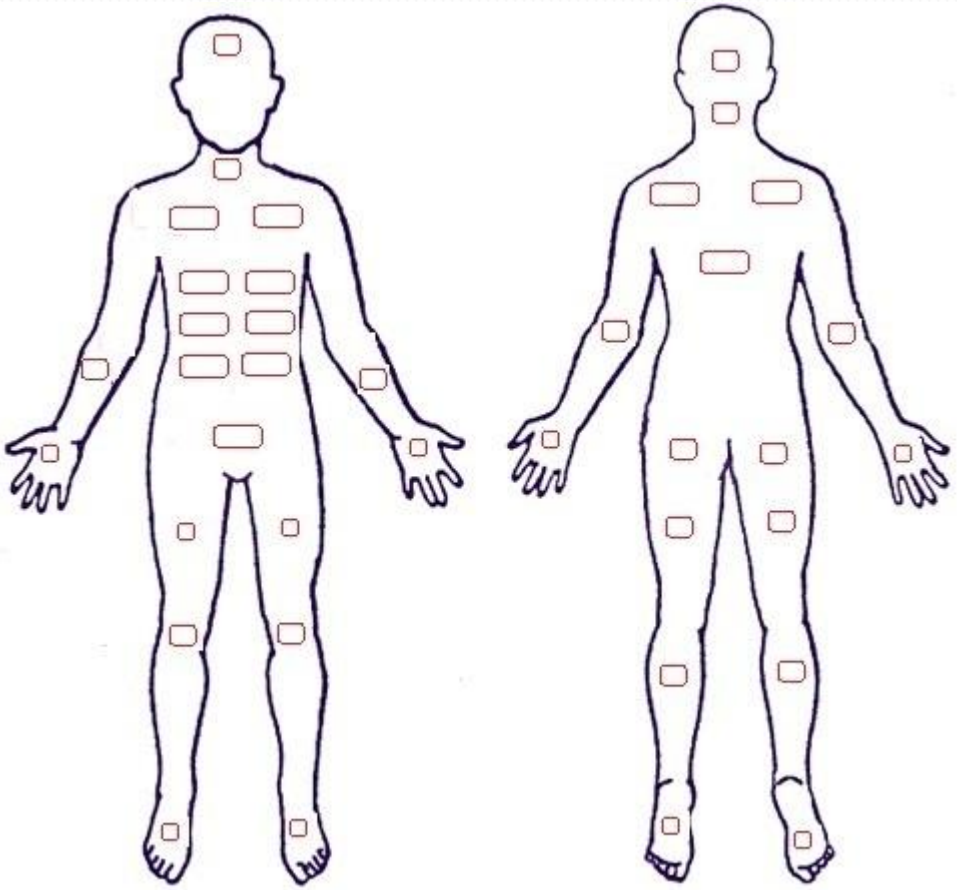
Stellarc's bulky Electronic Muscle stimulator piece

"Parasite" 1997

Electronic Skin: Artistic Application

Live Sculpting using electronic skin patches

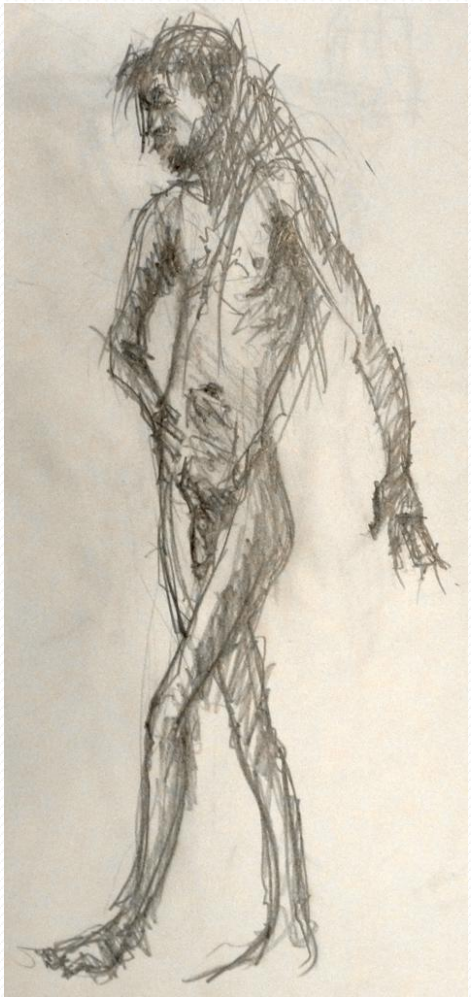
Lightweight, greater amount of information relayed. Total external control of body.



Live Sculpting: Museum Exhibition

- The exhibit's presentation will be referential to Michelangelo's sculpture of David placing a real human on a pedestal. The idea of the perfect or ideal human body will be explored.

Live Sculpting: Museum Exhibition



Prior to the exhibition I will fast to loose weight until my figure mimics the sketch to the left

The viewer will be charged with instructions to rebuild my muscles to the ideal body type

An onsite nutritionist will ensure I am eating enough to build the muscles specified by the viewers but the public will be responsible for my physical well being.

Live Sculpting: Museum Exhibition

Will the viewers be willing to put the model through great pain just for a chance to interact with the piece? What muscles will be targeted for the most growth?

The information gathered from the electronic skin, will be relayed to a glass display touch screen in front of the model. This makes the general public responsible for making sure my vital signs never drop dangerously low.

From this touch screen the viewers also can contort the models body to work out , giving them complete control over the models motion.

I will also have descriptions of the data being relayed broken down into plain English so the viewers can know what heart rates and brain waves are normal and which ones mean the model is stressed or overworked.

Live Sculpting: Museum Exhibition

In the gallery

Live Sculpting: Museum Exhibition

Potential problems:

While traditional electronic skin is extremely flexible, it is made to be removed with water, meaning excessive sweating would cause the sensors to rub loose. A more permanent sensor will be needed however that complicates removal.

By putting a humans life in the hands of the general public, I am putting a life in danger, and a medic will need to be present at all times.

What will the model be doing when the exhibition is not closed for the night.?How will this be determined?

Live sculpting: References

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