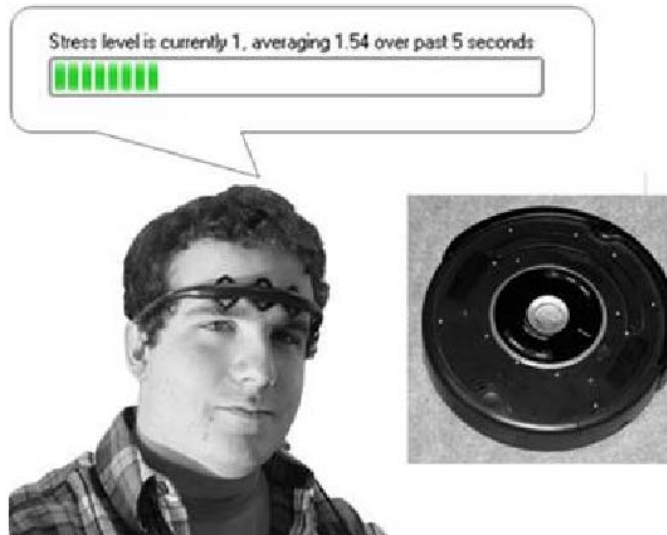




## Designing Sensitive Robots

MARCH 17, 2009




As part of the 2009 Human-Robot Interaction Conference, researchers from the University of Calgary have released a paper describing their efforts to make a household machine - in this case, a Roomba vacuum robot, aware of its owner's emotions. Using a special headband that reads bioelectrical signals, they were able to control the Roomba based on the unique physical indicators of human emotions. The researchers are hoping to design robots that are more responsive to human needs. So, if a human seemed upset, the robot could sense it, and comfort them. Or, on the flipside, when people get angry, these highly sensitive class of machines could know to get out of the room and leave them alone.

Technology Review explains:

The headband, which is sold as a gaming device, detects muscle tension in the wearer's face, so the researchers were able to directly control the Roomba's speed by, for example, clenching their jaws or tensing their eyebrows. They also developed a somewhat crude way to evaluate a person's emotional state, based on facial muscle tension (the more tension, the more stress), and programmed the Roomba to respond. If a person exhibited high stress, the Roomba continued cleaning but moved away from the user, according to the paper.

Technology Review: "A Robot That Knows When to Back Off"

[via Engadget]

 **By Dan Gould**  
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