



F.C. company develops tool to measure stress on the job

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When her co-workers talk about how stressful their jobs are, Kimberley Olson thinks, "You don't know what it's like to work under high stress."

Olson used to be a manager at Home Depot, a job she considers a lot more stressful than the licensed insurance advisor position she's held for the past 13 months at Stansfield Insurance Agency in Fort Collins.

"I'm a fairly level person here," Olson said. "I don't get stressed that often."

Even so, when she had to handle a difficult situation recently, her stress level went up. Olson knew that because she and her co-workers have been monitoring their stress through innovative new technology developed by a Fort-Collins startup company called Logisens.

A sensor on Olson's computer mouse measures the moisture in her skin. When the moisture increases (an increase in moisture is one indicator of stress) above a certain level, a message pops up on her computer screen, telling her it's time to do stretches or other relaxation exercises to bring her back to a relaxed state.

Led by Fort Collins resident and electrotechnical engineer Chris Stockinger, Logisens conducted six months of study on the stress management technology before marketing it a few months ago. So far, the company has sold the sensors and the software that accompanies it to about 250 customers. Among those using it are employees at the city of Fort Collins, Colorado State University and a 911-call center in California.

David Stansfield of Stansfield Insurance Agency found out about Logisens through a friend. He was skeptical about the technology at first. He and his eight employees have been using it for about a month.

"In the beginning, I didn't know if it would work," Stansfield said. "After a few weeks of using it, I asked my employees if we should take the sensors away. They said, 'Absolutely not.' They really like it."

Stockinger, an Austrian native who came to Fort Collins two years ago when he married an American woman, developed the technology as a result of his experience working on stress management studies in Europe.

While studying electrotechnical engineering at the Technical University of Vienna, Stockinger measured different things with the human skin. He and a colleague started designing sensors for use in clinical studies about stress management. Their goal was to make the least intrusive sensors possible.

Stockinger thought, "Wouldn't it be great to not have to strap sensors on people at all?" That's what inspired the creation of a sensor attached to a computer mouse.

Stockinger also thought it would be great to get the technology used in clinical settings out to the general public, particularly for managing stress.

Researchers in a variety of disciplines have been studying stress for years and have come to similar conclusions, namely that people are experiencing more and more stress, and it's causing an increasing number of health problems.

"There's confusion about the word stress," Stockinger said. "It's not always negative. Stress helps us deal with our tasks and get them done. It's bad when it accumulates and your body doesn't have time to relax again."

When stress becomes unmanaged, it leads to physical symptoms including headaches, neck, shoulder and back pain, insomnia, heart disease and high blood pressure, weight problems, alcohol and drug addiction, injuries and digestive problems.

According to the Stress Management Institute - www.aboutstress.com -two-thirds of all visits to physician's offices are due to stress-related symptoms. The three most commonly prescribed drugs are stress-related medications: for sedation and mood enhancement, hypertension, and induction of the tranquil state of sleep.

The Bureau of Labor Statistics reports that stress costs U.S. companies \$300 billion per year. That amounts to about \$10,000 per stressed worker. The cost to companies comes primarily in more sick days, less productivity and employee burnout.

Logisens, based out of an office in Fort Collins with eight employees, developed software that correlates with the computer-mouse sensor to tell workers when their stress is elevated and give them a choice of exercises to do.

The whole package, which includes the device, software and training on how to do the stress-relieving exercises, costs \$300 per person for the first four months. After that, the cost is \$60 per person every four months.

Before it marketed the devices, Logisens studied the results of the sensors for six months. A billing office and a municipality reported more than 20 percent reduction in burnout and a 38 percent and 44 percent, respectively, reduction in work stress. The billing office reported an 8 percent increase in productivity. Employees also reported a 13-15 percent increase in life and job satisfaction.

Logisens measured the different areas through a psychological self-assessment questionnaire. Productivity was measured by tasks completed.

The stress-reducing exercises take 20 seconds to two minutes. Stansfield estimates they take about 3-5 minutes on average out of his employees' total workday.

Exercises include eye relaxation - opening the eyes, focusing on a distant image, closing the eyes - looking at a series of relaxing pictures, breathing and stretching.

Olson said she was afraid the sensor would drive her crazy.

"I'm pretty efficient, and I thought I'd have this thing popping up on my computer screen all day," she said. "But when it pops up, it's never the primary window. You have the option to click on 'postpone' and go back to it later."

By 2007, Logisens hopes to develop a wireless version of the technology. The company also wants to apply the same kind of technology to helping people play better golf.

Stansfield said it's too early to tell the long-term effects of the sensors in his office. But already the number of sick days has decreased significantly compared to the same time last year, he said.

Stansfield said he intends to keep the sensors on his employees' computers.

"It's a remarkable product. I've never heard of anything else like it out there," he said. "It's a really non-interfering way to manage