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EyeTracking Keeps Focus on a Growing Prize

By JESSICA LONG - 7/16/2007
San Diego Business Journal Staff

Eyes may be a window to the soul, but they can also serve a more profitable purpose with the proper technology.

EyeTracking Inc., a business based near San Diego State University, uses specially designed hardware to capture exactly what a person's brain is telling her eyes to do in response to something she sees. According to the company's founder and chief executive officer, Dr. Sandra Marshall, the idea is to help businesses become mind readers when it comes to such things as how an online consumer will respond to a Web site design, or how easily employees will be able to use a new internal computer system.

Marshall, 59, founded the company in 1999 after spending more than a decade working on behavioral and cognitive research with the U.S. Department of Defense. The psychologist, who has taught at San Diego State since 1985, recently doubled the size of her staff and is projecting even more growth this year.

"In addition to growing the market, we really had to establish the market, which we believe we have now, so it's exciting," said Marshall, who employs 10 people out of her 3,500-square-foot offices adjacent to the university in the Alvarado Medical Complex.

Today, 10 percent to 15 percent of Marshall's business remains in the government sector, leaving the rest to commercial business.

James Weatherhead, EyeTracking's president, declined to disclose company revenues, but said he is expecting a 50 percent to 75 percent increase over last year due to a current average of four to five projects a month. Marshall did say the company is profitable.

"We are having more repeat revenue from clients coming back and we are having more word-of-mouth driving revenue," Weatherhead said.

Most EyeTracking clients demand confidentiality, Marshall said, but one that isn't shy about its experience is Fujitsu.

The Japan-based company with U.S. headquarters in Dallas deals in self-checkout and ordering systems for the food service industry, including fast-food restaurants and grocery stores.

Kent Schrock, director of marketing programs for Fujitsu, said after adapting what was learned from an EyeTracking study, a Fujitsu client saw its average check go up 24 percent. Schrock declined to name the client, except to say it was an East Coast casino that uses a self-ordering system in a food court-type area.

Schrock said what is even more impressive is that the casino's primary clientele are senior

citizens on bus tours, a generation often dismissed for being less computer savvy than most.

Technicalities

In addition to collecting the data, trained EyeTracking personnel interpret the findings and present them in neat, boardroom-ready packages, Marshall said.

Findings could be as simple as identifying that a certain color garners less reaction than another, and as complex as reporting that a user is unable to confidently operate the system.

EyeTracking has tested anywhere from 10 to hundreds of subjects for one project. Testing usually takes between 30 and 90 minutes, Marshall said. In that time, 30,000 data points are collected each minute. Testing can take place at the EyeTracking offices or on-site.

“It’s definitely not a one size fits all,” said Marshall, whose company has no competitors per se. All research companies and firms in the biotechnology industry, though, could provide competition for EyeTracking.

Interpreting all that data is no easy task either, which is why the company uses specially designed analysis software to go along with its sophisticated hardware.

There are three types of hardware systems used by EyeTracking, which declined to say what it spent on the equipment. One is manufactured in the United States, another in Sweden and the third in Canada.

One involves a bulkier headset that requires a test subject to sit down in front of a computer screen, another involves a similar but mobile headset so the subject can walk around, and the third is a desktop device that sits in front of a person as he or she is being tested.

Governmental Roots

The patented technology used by EyeTracking today came from a need to measure Navy officers’ stress levels as they made tactical decisions. Long before offering a commercial service to for-profit businesses, Marshall’s work was supported through funding by government contracts and grants and assistance by such groups as San Diego’s Center for the Commercialization of Advanced Technology, a public-private partnership involving the Department of Defense.

Lou Kelly, who chairs CCAT’s board of directors, estimates that his group has given Marshall “hundreds of thousands of dollars,” plus free advice and mentorship to bring the technology to market.

“They are typical of a San Diego company from the standpoint of being a very innovative technology,” Kelly said. “It was clearly something that we found could be of strong value.”

Accuracy Debate

Like most research methods, testing for pupil dilation will inevitably have some margin of error, Marshall concedes. But to a much lesser extent, because it is harder for subjects to consciously control their natural pupil reaction.

“It always will (have a small percentage of error), but people tend to forget they have it on,” Marshall said. “It’s like when people are being videotaped, they’re self-conscious at first but after

a little while they forget. The secret is in the tasking."

Marshall and her crew "task" subjects by giving them a list of things to do, such as "buy a red shirt" or "register."

Kathryn Van Auken, manager of Web design for Houston-based Continental Airlines Inc., is another EyeTracking client. She declined to say how much Continental spent on a study of its recently redesigned home page and booking site, but said some findings are in the process of being incorporated. She also declined to say how much the airline spends on research, except to say it is significant. She noted that EyeTracking's technology seems to be the wave of the future.

According to Van Auken, when using traditional research methods, such as focus groups or surveys, people often try to appear smarter or want to appease the tester, and nontraditional research methods, such as programs that count mouse clicks, tell only half the story.

"Eye tracking kind of fills in that missing piece about what they were doing before they clicked," she said.
