

Anger Management

The next time you raise your voice to a phone-in service, you may well be heard—by a computer

“This call may be monitored for quality assurance purposes,” intone the automated answering systems of so many corporate call centers. In some cases, now, the monitoring has another purpose as well: anger management. And that means not just the anger of enraged customers but of the people fielding the calls.

Eight years ago, when monitoring systems were first put in place, large companies could only spot-check the millions of calls to their support and sales lines, says Bar Veinstein, director of product marketing at NICE Systems Inc., in Ra’anana, Israel, and Rutherford, N.J., that claims to be No. 1 in the US \$800 million business of supplying systems for call monitoring.

Veinstein does the math. “An average call is 3 to 4 minutes. A large client might have 2000 agents, with 60 to 70 percent of them on the phone at any given moment. So the average agent answers 10 calls an hour. That’s 20 000 calls per hour, 160 000 calls per shift, or almost 500 000 calls in a day.”

When human beings do quality assurance unaided, they can listen to replays of perhaps 1 percent of the calls. It costs a great deal of money. Of course, a conversation in which a voice was raised in anger would be very worthy of notice, but spot-checking catches only a handful of cases.

“Out of those 500 000 calls in a day,” Veinstein says, 2000 might convey anger. “At 1 percent, what’s the number of calls where anger is heard? Only 20. But with 80 percent accuracy, out of those 2000 angry calls, our software would have flagged 1600 of them.”

NICE charges \$1400 to \$1500 per seat for the software, which does call recording, quality monitoring, analysis, and now, anger detection. It’s not a lot of money for a business with millions of customers, nor for one that routinely risks thousands of dollars on the outcome of a single telephone call. One such customer is FedEx Custom Critical, the unit of the giant shipping company that delivers diamonds, currency, and other very valuable shipments.

Calls are recorded, then screened by NICE’s software. It runs on off-the-shelf servers made by Hewlett-Packard and IBM.

“You can set a particular level of emotion to trigger the emotion detector,” says Veinstein. “The software engine will go



over the data signal and, second by second, run the algorithm. If emotion is detected, you get a report that includes the level of certainty that the call included angry emotions.” These calls are flagged for more careful study by the company’s managers. Should they find that the call agents behaved improperly, the managers may retrain the agent or take disciplinary action.

The best measure of anger turns out to be changes in a voice’s pitch—not just how high it goes, although that is important, but the timing of the change.

EMOTION-SENSITIVE SOFTWARE MAY BE JUST A FIRST STEP

A strong variation over two seconds is evidence of anger. The program also looks at eight other speech elements, which Veinstein declined to name. Another algorithm counts how often people interrupt one another, another sign of potential anger.

Veinstein says his product’s quantitative analysis of several variables resembles the methodology of lie detectors, which are notoriously inaccurate. But emotion detection is not used in a court of law. Nor does it matter if it misses a few instances of anger, so long as it catches many of them.

Much more useful to the company paying for the system, though, is word recognition, a capability that NICE added two years

ago and most of its competitors also offer. Ted Lubowsky, vice president of sales and marketing at Envision Telephony Inc., in Seattle, says that his customers are eager to know when their customers say things like “I can get a better price” or invoke the names of their competitors.

Etalk Corp., in Irving, Texas, also sells word-recognition services. Steve Graff, vice president of technology, says the technique can discover problems too subtle to escalate into shouting matches. “There might be trends that indicate a broader problem,” he says. “An employee might tell a manager, ‘I’m getting calls about rebates.’ Perhaps the marketing department sent out a special promotion and the customer service operation hasn’t been fully told about it.”

Emotion-sensitive software may be just a first step to broader monitoring. NICE’s Veinstein says the same algorithms can be used to detect fraud. “You’re calling your insurance company about a claim—say, that your car’s been stolen, but it really hasn’t been,” he says. “A software agent could identify, in real time, an emotion that correlates with fraud.”

Call monitoring is growing by a healthy 10 to 15 percent annual clip, according to one industry estimate. As the software improves and the hardware gets faster, ever more calls will be scanned in ever more sophisticated ways.

And one day, the familiar recorded message might really mean, “This call may be monitored for criminal investigation purposes.”

—STEVEN CHERRY