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RAFE NEEDLEMAN'S WHAT'S NEXT [Print This Article](#) [E-Mail This Article](#)**On the Pulse of Biometric Security****Two new technologies take the hackability out of ID scanners.***By Rafe Needleman, February 27, 2003*

I take a perverse pleasure in the difficulties computer security experts have in creating systems that can tell people apart. Differentiating one person from another is an innate animal ability, but for computers it's a huge challenge. It is also vitally important: Passwords are too easily stolen, and we need both electronic and physical security systems that will admit only authorized personnel.

Some biometric security systems are very good at telling people apart, but they can be fooled. Fingerprints, for example, can be duplicated. An electrical engineering professor in Japan has found a way to fool fingerprint scanners by transferring the signature whorls and ridges to a sheet of gelatin -- the same kind of gelatin found in gummy bears. Some really cheap scanners can even be fooled by fingerprints left on the surface of Scotch tape.

So how can you take a biometric security technology that's good at telling one signature from another, and improve it to make sure the signature is actually attached to a living person?

At the Demo 2003 conference last week, I asked this question of the CEO of Vocent, which makes voice identification systems. Because most voice ID systems can be fooled by a tape recording, Vocent's system asks the person being identified to repeat a random series of four numbers, and it checks for variation in the voice to make sure that the series being spoken is not from a tape loop. (Users have to enroll in the system first by reading the numbers zero to nine.)

Vocent's technology is currently employed by automated telephone customer service systems, including those at U.S. Bank and Hartford Insurance, where it saves customer service reps the time and tedium of asking for identifying information like Social Security numbers. It's also more secure than asking for information that can easily be stolen.

FAST FACTS**Tarian Technology**

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CEO	Richard Bennett
HQ	Redmond, Wash.
FOUNDED	1999
EMPLOYEES	1
FUNDING	All private; raising angel round
PROFITABLE?	No
MARKET	Biometrics

Tarian Technologies, an early-stage venture, is working on a similar proof-of-life idea applied to fingerprints. Its technology reads the unique waveform of your heartbeat, using an infrared sensor to measure how the flow of blood in your fingertip changes as your heart beats. As CEO Richard Bennett explains, everyone's heartbeat is slightly different, and so are all of our circulatory systems; by the time blood makes it from your heart to the capillaries in your fingertips, your pulse has a unique waveform. In a demo last month, a prototype was able to clearly tell the difference between me and Bennett.

Obviously, picking one person out of a two-person lineup isn't the most compelling security demo, and Tarian's technology is not close to being widely adopted as a stand-alone security system. But it represents a step forward in fingerprint biometrics because it can prove that the finger being scanned is actually attached to a living human. ♦

Correction: The Terra Digital products do not use WiFi, as I stated in a [previous column](#). Instead, the products use 900 MHz wireless links, which the company claims gives greater range.

-[Rafe Needleman](#)

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Rafe Needleman is the Silicon Valley insider's insider. For years he's led loyal readers of his Catch of the Day column to the hottest new technologies. Now he's bringing his latest finds to you with What's Next, his twice-weekly online column for Business 2.0. You can reach Rafe at rafe_needleman@business2.com.

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