Everything Jersey

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Security in the blink of an eye

Iris recognition is poised for growth, winning fans for its ease and accuracy

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Henry Morgan used to cringe at the sight of tourists. The sales manager frequently flies from Orlando International Airport in Florida, and all too often, he would get stuck in long security lines packed with Disney tour groups.

Last summer, Morgan enrolled his eyeballs in an experimental program that identifies him as a low-security-risk passenger. Now, he sleeps longer, comes to the airport later and zips past the lines and through security in a matter of seconds.

"The sooner they can spread this around the country, the happier we frequent travelers will be," the Orlando resident says.

Morgan's rapture largely is made possible by iris scanning, a technology with strong New Jersey ties that some analysts say is ready for takeoff.

Iris scanning involves gazing into a camera, which uses harmless infrared light to record the circular portion of the eyeball that surrounds the pupil, called the iris. Software compares this image with an iris scan stored in a computer or on a smart card, to verify if someone is on an approved list -- or a terror-watch list.

"Irises are incredibly intricate. Like a snowflake, no two are the same," says David Johnston of LG Electronics' iris technology division in Jamesburg.

An iris is creased with intricate ridges and valleys; it's this texture that gets scanned. Two hundred and forty details are analyzed, far exceeding the number of data points sifted for fingerprint or face recognition. And irises don't wear down like fingers or age like faces.

"Overall, it's an extremely accurate technology," says Raj Nanavati, a partner in the International Biometric Group, a New York consulting firm.

Your odds of being misidentified by an iris scan are about 1 in 1.2 million -- and just 1 in 1.44 trillion if you scan both eyes, says Frank Fitzsimmons, chief executive of Iridian Technologies in Moorestown. Iridian licenses iris patents to vendors such as Panasonic in Secaucus and Oki of Mount Laurel, and sells systems for storing and matching scans.

AIRPORT SCREENING

Iris scans and fingerprints are required in the Orlando program, run with government approval by Lockheed Martin and Verified Identity Pass, a company started by Court TV founder Steve Brill. More than 12,000 frequent travelers have paid $80 each to enroll.

A few applicants were rejected because of fingerprint anomalies or problems with background checks, a Verified spokeswoman says.

Participants present their smart card at an airport kiosk and submit to iris and fingerprint scans. They are exempted from random, secondary screening after passing through standard security.

Next summer, the Transportation Security Administration plans to expand a "registered traveler" program tested this year, at no cost to participants, at airports in Minneapolis-St. Paul, Los Angeles, Houston, Boston and Washington, D.C.

The Port Authority of New York and New Jersey wants the Registered Traveler program expanded to Newark Liberty International Airport and JFK and LaGuardia airports in New York, spokesman Marc Lavorgna says.

"We would want a system that is reasonable to use, that would help increase security at the airports by concentrating resources on passengers that need to be screened and making the process more efficient," Lavorgna says.

Verification takes about 10 seconds on average, TSA Assistant Secretary Kip Hawley told Congress in November. Combining iris scans with fingerprints successfully identifies travelers 99 percent of the time, an improvement vs. fingerprints alone, he testified.

Airports in Canada and Europe already use iris recognition to speed travelers through security. The TSA is working with other federal agencies and the industry to ensure systems from different vendors produce uniform results.

"We expect another 50 airports to go online next year," says Tim Meyerhoff of Panasonic, which sells iris-scanning cameras for $3,700.

GROWING BIOMETRIC

With sales of about $82 million this year, iris recognition accounts for a mere sliver of the $1.5 billion global market for biometric systems, IBG's Nanavati says. The biometrics market, growing swiftly since the Sept. 11, 2001, terrorist attacks, includes technologies for recognizing fingerprints, faces, voices and hand geometry.

More vendors soon may be giving irises a look. Iridian's patent on the concept of scanning irises -- dubbed the Flom patent for inventor Leonard Flom, a Connecticut ophthalmologist -- expired last February in the U.S. It expires in Europe and Asia early in 2006.

"This will basically result in the market moving from a virtually monopolistic state to an oligopoly with a few new entrants to compete with Iridian, primarily on price," Frost & Sullivan analyst Sapna Capoor says. She expects iris scanning to become a half-billion-dollar industry by 2009.

Privately held Iridian still boasts experience -- along with patents on how to make, secure and match iris images, Fitzsimmons says, predicting iris recognition will become "as ubiquitous as digital cameras."

Iridian is putting its algorithms on a chip to work with small cameras in hand-held computers, laptops and hotel room doors. Expect to see iris readers at checkout counters, and iris scans on drivers licenses before long, Fitzsimmons says.

The United Arab Emirates has used iris scans to catch 55,000 people trying to sneak back into the country with fake identity documents, Fitzsimmons says. Creating an iris scan from a famous National Geographic photograph, Iridian helped the magazine identify an Afghan woman who had appeared on its cover years earlier as a girl, Fitzsimmons adds.

LG Electronics, which is embroiled in a bitter licensing dispute with Iridian, is deploying iris scanning in India to combat fraud. Six million people now tote food rationing cards bearing their iris scans, with another 74 million to follow, LG's Johnston says.

All of which ominously suggests "Minority Report," the 2002 thriller in which Tom Cruise resorts to an eyeball transplant to elude government scanners.

Fitzsimmons says iris recognition will tame identity theft. Could someone beat the system with a stolen eyeball?

"The image of an iris rapidly degrades once it leaves the body. You can't use it too long," Fitzsimmons says. Besides, he adds with a laugh, "if that's your problem, maybe you need something stronger than iris recognition."

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