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Excerpt from full article

Biometrics coming of age (really this time; no, really!)

One of the oldest traits known to man, the fingerprint, was used to revolutionize the way humans can be authenticated. Yet throughout the years of perfecting biometric technology, one challenge remains — acceptance. Experts say user resistance is holding back possible biometric improvements.

Today, biometrics is available for some everyday uses, such as on laptops and on cell phones in some parts of the world, but Walter Hamilton, International Biometric Industry Association chairman of the board and president, says that biometrics still isn't widely accepted. "The American public has a perception that biometric technology, and other types of authentication technology, is privacy-invasive. I don't believe that; I think it is a privacy protector," Hamilton says.

Ari Juels, chief scientist at RSA Labs, points out that although less frequently used items such as e-passports include biometrics right now, when biometrics plays a role in more everyday routines, "privacy concerns will diminish as familiarity grows."

Using biometrics on a daily basis will show ease of use, says Matt Bogart, marketing vice president for Bioscrypt, Sunnyvale, Calif., especially when using it as authentication for password-protected devices. "Which is easier to remember, an extensive password or the same password by presenting your finger?" Bogart asks. "There will be a certain move away from passwords as a default technology in 2008 to biometrics, but probably not completely taking over until a few years from now."

Other emerging biometric trends in 2008 may include a rise in prosthetic biometrics such as wireless implantation, Juels says, which can be used to identify individuals for medical purposes and to identify "John Does." Although Verichip Corp., Delray Beach, Fla., already offers this technology, Juels says it will blossom into a full-blown medical market, ultimately affecting the authentication market.

Bioscrypt is bringing change in 2008 to a face reader. Bogart says the company is taking the current face reader's 2-dimensional picture, which may pose problems with face angles and shadows, and transforming it into a 3-D picture that will match a face based on 40,000 data points.

Bill Spence, vice president of Transaction Systems at Lumidigm Inc., Albuquerque, N.M., says both the public and private biometric markets will grow in 2008. Since the private market concerns single-user authentication, lowering cost will be a 2008 goal. For the public market, accuracy will trump all other features. "While the security market uses both public and private sectors, they both have different demands. The needs are different, and so is research and development," Spence says.

There's a lot in the pipeline for biometrics beyond 2008, say the experts. One development is biometric template protection. Juels explains, "If you're exposing your iris and finger on a daily basis for authentication, you are scattering your secrets. When you store your biometric template, you are still revealing what is used to authenticate you," he says. "There is heavy reliance of trust on the reader right now, and I don't think that is a good assumption."

Agreeing about the potential harm of stored templates, Hamilton sees a growth in liveness detection, important for unsupervised transactions. "It is not widely used now, but is considered high priority for the future," he says.

Hamilton mentions DNA as a real-time authenticator and a possible live biometric. Being considered for long-term future use, it would include a sensor device that would take a DNA measurement, produce a record from the DNA and send it to a database for results. "It's one that is being highly talked about," Hamilton says.

Bogart includes multimodal possibilities for the future of biometrics. "Organizations are going out and saying, 'For my front door I want a face reader, for data I want fingerprint, for password I want voice,' etc.," he says. "[In the future] there will be less of a niche for single focus companies."

Spence agrees with Bogart and takes it a step further with the use of multiple biometrics in a single acquisition. "By using two things together, such as the iris and the face, it will only enhance the accuracy," Spence says.

He adds that this will come with a better promise of privacy for the user. "The biometric industry is working very hard to enhance privacy," Spence says. "As biometrics becomes more widespread, users will adapt and adopt biometrics as a way to authenticate themselves."

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