

Last updated Friday, Jul 25, 2008 - 10:41:05 am MST



Sierra Vista, Arizona | Friday, July 25, 2008

In your face, in 3-D

Image database adds dimension to fight against insurgents, criminals

By Bill Hess
Herald/Review

Published on Friday, July 25, 2008

FORT HUACHUCA — Move over, Batman. There is a new system to fight crime.

And for the jokers who are terrorists, once your face is put into a database, it may not just be a 2-D criminal mug shot, but a 3-D image that will highlight many more facets of an insurgent's face, making it easier to identify.



Paul Schuepp, President and CEO of Animetrics Inc., explains the three-dimensional face recognition program his company developed while at Wednesday's Biometrics and Forensics

Summit at the Thunder Mountain Activity Centre on Fort Huachuca. (Mark Levy-Herald/Review)

As part of the Army BAT system — Biometrics Automated Toolset — which has a logo similar to the bat used over a searchlight to call the Caped Crusader to help, Animetrics. Inc., announced on July 15 that it completed the first stage of integrating its 3-D Face Viewer software into the Army's BAT system.

On Wednesday and Thursday, the corporation displayed its new technology at the first Biometrics and Forensics Summit on Fort Huachuca. There are a number of vendors, as well as U.S. agencies, exhibiting their wares at the Thunder Mountain Activity Centre, where 300 people are attending the event that isn't open to the public.

Paul Schuepp, president and chief executive officer of Animetrics, talked about the 3-D upgrade, explaining it can be used for face recognition and face creation.

In a 2-D photograph or video, the flatness doesn't display as many facial characteristics of an individual as can be accomplished in 3-D, he said.

The program developed by the corporation's founder and chairman of the board, Dr. Michael Miller of Johns Hopkins, can be displayed on a number of systems besides computer screens, including on cell phones, Schuepp said.

With a 2-D photo, the dimensions remain the same, which is not true in real life.

That is what 3-D captures. As a face moves, the dimension changes. When looking to see if a person is wanted, such as an insurgent, the face isn't always at a full frontal view or side and flat.

With the new program, there is more reality to the face.

And if a photo is initially a 2-D picture, it can be changed to 3-D "within seconds," Schuepp said.

As his fingers rapidly went along a computer keyboard, he quickly proved his points about how easy it is to create a face template that will provide even further potential of apprehending an insurgent.

It's not that 2-D images cannot provide good information. It's just "3-D is much better," Schuepp said.

Saying to look at his face, he turned it in different directions and he asked weren't "there some changes in the dimensions?"

The answer was yes.

The software also can take streaming video and change it from 2-D to 3-D, again providing a more realistic image.

Both 2-D and 3-D can go through a database rapidly.

But once a 3-D image is added to a database, it increases reliability, Schuepp said.

The corporation started in 2002 with about \$2 million in private investor funds, followed by \$3 million from different government sources, he said.

Schuepp and nine other employees work at the corporation's facility in Conway, N.H.

"Eleven if you add Dr. Miller," he said.

The 3-D aspects of the software also can be used in the civilian world, although much of the corporation's business is mainly some aspect of law enforcement, Schuepp said.

However, i-Fashion, a South Korean company, has approached Animetrics to provide 2-D to 3-D face creations for an innovative virtual shopping experience, he said.

An individual will provide a photo that will be put through the 3-D process.

The head will then be placed on an avatar so the person can go shopping for clothes and virtually try them on, as "long as they provide the right sizes," Schuepp said.

The work on the project is in "the prototype mode," he said about the June 4 announcement of the connection between Animetrics and i-Fashion.

In March, Animetrics entered into two other agreements, one with Duos Technologies Inc. in Jacksonville, Fla., and the other with the Korean National Institute of Scientific Investigation in Seoul, both centered around the corporation's 3-D program.

There also is a potential that the nationwide program to help find missing children may use the software once some issues involving copyright concerns are cleared up, he said, adding additional clients may include Homeland Security and the Transportation Security Administration.

"We're going to build our marketing and sales side (of the corporation)," Schuepp said.

When it comes to locating criminals or others, the three avenues are fingerprints, facial recognition and iris scans. As technology continues to improve, Schuepp said he will not be surprised if facial recognition, especially with the application of 3-D programs, will eventually be used more than fingerprints, although fingerprints will remain an important part of biometrics.

A few years ago, the Intelligence Center on Fort Huachuca began developing a Biometrics Automated Toolset.

During those early days, the small workspace was known as "the bat cave."

Today, the cave is larger and full of tools that would make even Batman envi-ous.

Herald/Review senior reporter Bill Hess can be reached at 515-4615 or by e-mail at bill.hess@svherald.com.