



## **Video Surveillance Technology Leaps Forward**

**By Jamie Walden - 9/28/2009**

Although "caught on digital video" isn't as catchy as "caught on tape," it's a distinction Arkansas business owners and law enforcement have learned to love.

The business community, locally and elsewhere, is brimming with anecdotes of high-quality digital images leading to speedy justice.

Dennis Simpson, for instance, recounted the almost comical smash-and-grab burglary in July at his west Little Rock business, Wired! Since Wired! specializes in video surveillance equipment and is equipped with 17 digital cameras, it is one of the dumber places to rob - as the swift apprehension of a suspect proved.

In June, a River Market robber made his getaway across the Junction Bridge, a pedestrian walkway that is equipped with six digital cameras.

"The resolution of the video was good enough that the picture of his face was good enough that his mother recognized him and took him to Little Rock headquarters the next day and turned him in," Capt. Leonard Montgomery of the North Little Rock Police Department said. "And that crime was solved in one day."

Similarly, the clear digital image of a masked bandit's eyes led a Little Rock woman to identify her 18-year-old son as the suspect in the Christmastime 2006 robbery of a Metropolitan National Bank branch during which a young teller, James Garison, was shot to death.

Crisp resolution, which Simpson said would get even better with the introduction this year of high-definition security cameras, is a major step forward in video surveillance. But it isn't the only improvement.

### **Fancy Features**

As vice president of security at Metropolitan National Bank, Mike Shepard must keep an eye on all of the branches. Since the bank's transition to digital cameras in 2004, Shepard can monitor all 51 branches from his 13th-floor office in downtown Little Rock.

But unlike the old days, when security guards had to keep their eyes glued to a monitor split 17 ways, Shepard can now outsource many tasks to the cameras.

"If I have one of my motion detectors go off at nighttime, this system will also grab the video like 30 seconds before and 30 seconds after the motion," Shepard said. "Did you have a mouse running across the floor? Or was somebody walking up and looking in the window at nighttime trying to see what's inside?"

Either way, the camera records that motion and stores it on the hard drive. Shepard can later look at a timeline of the night before, which bears the occasional jagged spikes that indicate motion.

Instead of waiting for several minutes on the hypnotic whirl of a fast-forwarding videotape, Shepard can see exactly what happened with a double-click.

But as is often the case, new technology creates new problems.

"Imagine a large dry cleaner that has huge fans going all the time that are trying to exhaust enormous amounts of the heat in the room," Simpson, of Wired!, said. "With that fan going all day long, I'm going to be recording all day long [because of the motion detectors]. So I click and drag a mask over that fan and tell [the camera] to ignore, so it only looks for motion outside that mask," he said.

Camera systems, Shepard said, not only can detect motion but can now recognize a new stationary object like a briefcase or a parked car. The object-presence detectors can also alert a manager when an object that is normally present is missing.

"The motion detection software, the things that you've seen in Hollywood, are really coming true in just the last few months," Simpson said.

Both Simpson and Shepard agree that one of the best things about digital video is the capability to easily search through archived video. An exact moment in time can now be located and reviewed in the time it used to take to walk toward the video archive room.

In one example, two men robbed the U.S. Pizza on Rodney Parham Road, a store supported by a Wired! surveillance system.

"And we literally were able to drill in, get the video and e-mail the video to the Little Rock Police Department before they arrived on the scene," Simpson said.

Shepard said the search capability of digital video maximizes his time.

"Before, they'd have to pull a videotape and send it down to us and we'd have to play through hours and hours [of video]," Shepard said. "But on the new search mechanism, I can go in, pick the date, pick the time, pick the camera and then it's there. Where it used to take me 15 minutes just to get to the right spot, now it takes me 30 seconds."

## **Facial Features**

In two of its North Little Rock branches, Metropolitan is test-driving facial-recognition software as part of its security arsenal.

Teller cameras grab several face shots of each customer across the counter and store them on a hard drive.

"If I've got a bad guy that cashed a stolen check or whatever, I can grab his face off of that [video] and search for that face," Shepard said. "Has this face been back in here in the last six weeks?"

If that bad guy returns, the security system can notify Shepard that a fraudster has entered the building.

Shepard said banks with compatible facial-recognition technology could pull photos and videos of robberies at other banks from sites like BanditTracker.com and upload them into their own systems.

"I can grab that video or I can grab a face shot and I could send it to them. And they can plug it in the system and run it against everybody across the board who they see," Shepard said.

It's the next best thing to a security system that can predict a crime before it occurs: Shepard can preload the faces of bank robbery suspects into his system and receive a notification if one enters a

Metropolitan branch.

Systems like Metropolitan's range between \$5,000 and \$20,000, plus the cost of each camera, Shepard said. Simpson said the cameras that he installs cost between \$500 and \$1,000. That price includes installation, the digital video recorder technology, software and wiring.

### **Other Uses**

Simpson said many of his small-business customers have little use for facial-recognition technology. Instead, they use technology that recognizes license plates.

A camera can grab a screenshot of a license plate, Simpson said, and send an alert via e-mail or even text message to the business owner, stating, for example: "A car with license plate number AAA 111 drove through the parking lot at 2 a.m."

With Internet protocol cameras, or net cameras, small-business owners can monitor their shops remotely, from the couch at home or from a hotel while on a business trip.

Some clients, Simpson said, even use the net cameras as a remote management tool.

"They'll call and say, 'Joe, you're not wearing your cap. You need to be wearing your cap,'" Simpson said.

"And when the employees know, 'Somebody is watching us. We're not just out here alone. The boss can look in on us at anytime,' it does straighten up some activity," he added.

And since cameras can also stream audio, managers can even make sure employees are cordial to customers.

Though net cameras have been around for a while, Simpson said, the market changeover really gained momentum this year.

Simpson said that several clients use printer receipt-overlay software on their security systems to eliminate employee theft.

"On the [cash register's] receipt printer, I have a capture device. So when you ring up a ticket and it prints out that receipt, that receipt overlays on top of the video," Simpson said.

Shepard said video surveillance had vastly improved since he left the North Little Rock Police Department to lead Metropolitan's security efforts in 2002.

When he arrived, he performed a test on the bank's security cameras, which alternated snapping single-frame photos. Shepard said a person could potentially walk in and out of the building without ever appearing on the screen.

Now, his system can recognize a robber who may have never set foot in his bank.

"It's grown in leaps and bounds in the last few years," Shepard said.

### **Good Cop, Bad Cop, Digital Cop**

For the past several years, the North Little Rock Police Department has wielded a different sort of

weapon for stopping crime - digital cameras.

"Cameras are basically a force multiplier," said Capt. Leonard Montgomery, who is largely responsible for the NLRPD's video surveillance infrastructure.

And Montgomery plans to multiply his force multiplier.

The federal government recently awarded a \$495,000 Justice Assistance Grant to the NLRPD, about 20 percent of which is expected to fund 15 more "overt," or conspicuous, cameras and an undisclosed amount of "covert," or hidden, cameras around the city.

NLRPD already has 18 overt cameras around the city that archive video back 15 days.

The new high-definition cameras will also be Internet protocol, so the department can monitor them remotely.

The new cameras can be easily moved to other "areas of concern," Montgomery said, unlike the existing fixed cameras.

NLRPD Lt. John Breckon said the grant is about five times its normal size because of the American Recovery & Reinvestment Act. Breckon said Arkansas received about \$8 million from the Justice Assistance Grant program, \$3 million of which landed in Pulaski County.

The Little Rock Police Department also has a budget, though not as large, to set up a camera network in the River Market. Lt. Terry Hastings said the LRPD received about \$45,000 for that project.

Both departments hope to have the new cameras up within the next two months.