



Smarts From the Streets

Scientists and engineers may be the authorities on how technology works, but often the people who use technology are experts, too. That's why some of law enforcement's best innovations come straight from the officer on the street.

A Video Call for Help

"It sounds like magic, but it isn't," says Sgt. Dean Zanone of the Seal Beach, California, Police Department. "It is simply a system that uses the Internet to summon police to robberies and burglaries."

The Alarm Triggered Internet Protocol (A-TIP) system alerts the Seal Beach police to an in-progress robbery or burglary through existing bank and merchant video surveillance systems that are tied into a private network. When a robbery or burglary is indicated, the officer or dispatcher, by clicking on an icon, can go directly to the real-time video feed to view what is happening.

The A-TIP system, Zanone says, was the accidental result of a robbery at a local credit union. He happened to mention to a representative of the company that supplied the credit union's closed-circuit television equipment, "Wouldn't it be great if the police department could monitor banks and credit unions in real time?" Apparently the company took Zanone's offhanded comment seriously.

"It's really just high-speed Internet access to the police department," Zanone says. "We use existing cameras, put in a transmitter, and use the Internet as the pipeline to transmit information. We take the camera feed recorded in a bank lobby from what normally are analog cameras and run them through a video compression device and into the website. When an alarm is triggered, the patrol cars or the dispatcher can go to the webpage and double-click on an icon on the screen. They see a map to the location and a default picture, which is in real time. They can then select a different camera view because each camera is a link on the website."

The A-TIP system does not function as a guard service. Police access the cameras only when an alarm is triggered. They get a view of the crime scene with a 1- to

1.5-second delay. It promotes safety by allowing officers to see what's happening at the scene before they arrive.

Zanone says police and city officials are hoping the system, which is now in beta testing at several area businesses, will become a deterrent. Advertising that the system is in place and putting up signs near each camera warning that the image is being transmitted in real time to the police may discourage crime.

Future versions of the system are already dancing in Zanone's head. He envisions that the system someday will be able to transmit video from car to car and from car to dispatch by establishing a webpage for the patrol car and using the same technology to broadcast a picture. He believes the system can help police address workplace and school violence by pinpointing a suspect's location, circumventing the need for office-by-office or classroom-by-classroom searches. Even more advanced would be the ability, via the Internet, to control access to any area of a building, school, or office. And finally, there is the possibility of involving the local alarm companies.

"Alarms go to the alarm company, they call the police, and we respond," Zanone says. "We're moving to a situation where the alarm goes to the alarm company, they contact us and say they have an alarm and live video, and ask if we're prepared to accept the feed. We get the password, link up on the Internet, and go to the business's webpage to see what's going on. Another advantage would be eliminating all the times we respond to an alarm, can't find an obvious point of entry, and have to call the business owner. As it stands now, we might wait 45 minutes to an hour for the owner to show up and let us in. The advantage would be that we can see everything online, and so can the business owner."

The Seal Beach system is sponsored by Cisco Systems, San Jose, California; and Loronix, a Durango, Colorado, data management company. For more information, log on to <http://sealbeach.loronix.com>. Or contact Sgt. Dean Zanone, 562-799-4128 or dzanone@ci.seal-beach.ca.us.

Smile! You're on K-9 Camera

Dogs have played a role in police work. But if Nick Eberhard has his way, they will play a bigger role—with a little help from technology. Eberhard, a recently retired deputy with the Niagara County Sheriff's Department in New York State, wants to fit K-9s with cameras.

Why? He wants to combine the abilities of a trained police dog with remote surveillance operations, allowing officers to see what the dog sees.

The system, Eberhard says, will give police the ability to “follow” the animal on building searches and other K-9 duties. It will help document drug detection operations or make it easier to investigate hazardous locations remotely without endangering officers. “If we have a situation with suspects in a house or a hostage situation,” he says, “we can send the dog in. We'll be able to see what the dog sees. An onboard speaker will let us communicate with a suspect or command the dog,” he says.

Working with the Space and Naval Warfare Systems Command (SPAWAR) in San Diego, Eberhard has developed a wireless system that uses a custom-molded orthopedic cap that attaches a videocamera, microphone, and infrared capabilities to a dog's head. A harness that carries a transmitter, antenna, and batteries is fitted to the dog's body.

“The micro-videocamera is really something,” Eberhard says. “The end product will be very durable. [The suspect] will be able to fight with the dog but it will stay intact. You'll also be able to attach and activate it in less than 1 minute.”

Eberhard says he is improving on his original design, which combines custom electronics and off-the-shelf technologies. He wants to miniaturize the system and make it more rugged. The goal, he says, is to keep it under 6 pounds. Manufacturing is expected to begin this year.

A videographer for many years, Eberhard has produced outdoor television shows and public service announcements, done video work for the sheriff's department, and worked as a freelancer for the local cable channel and news station. He is an avid fisherman, and last year developed two underwater cameras for ice-fishing trips to Canada. The K-9 videocamera grew out of that project.

For more information about the K-9 videocamera, contact Nick Eberhard, 716-735-3083 or send an e-mail to copcamtenfour@aol.com. For more information about the Space and Naval Warfare Systems Command, log on to www.spawar.navy.mil.

Cardboard Box to Command Board

Critical incidents can be chaotic and confusing. Situations change constantly, which means the incident commander must have a firm grasp on logistics and an organized way to collect, record, and recall all necessary information.

Sgt. Kim Thompson of the Los Angeles Sheriff's Department has been at critical incidents as a commander and a first responder. After one particularly harrowing incident, Thompson came up with the idea for a portable command center.

“It was born in the early 90s, after a big incident in North Long Beach where a guy on meth shot five people and was running,” Thompson says. “It wasn't my area but I rolled up to see if I could help. One of the deputies and I chased the guy down streets, through alleys, and over fences until he finally locked himself in a shed. It was chaos. It was such a mess on the radio that the captain finally came on and demanded that someone take control. I was the only sergeant on the scene, so I did it.

“I looked at the deputy and said, ‘Okay, you're the scribe.’ He said, ‘What do I do?’ I said, ‘I don't know. Get out a piece of paper and start writing stuff down.’ The command post finally rolled up 2 hours later.”

In the weeks following the incident, Thompson thought hard about organization and incident response. She found a box in her garage and cut it into panels that she stuck together with duct tape. She made cheat sheets with basic information about response to hazardous materials, barricaded suspects, or hostage situations. Thompson's portable “command center” folded up like a map and had slots and worksheets for handling every aspect of an incident.

She says her idea has gone through several incarnations since then—made of everything from plexiglass to vinyl. The final result is the Command Board, a collapsible briefcase-like device that when closed measures 12 by 20 inches and fits into almost any patrol bag. When opened, it perfectly fits across the hood of a patrol car. The board comes with “S” hooks and straps so it can be hung from command vehicles, fences, or other fixed posts. It also can be folded and moved at a moment's notice. It has six panels, each with its own clipboard, and vinyl sheeting to expand to 12 panels when needed. Two 12- by 18-inch dry-erase boards can be used for diagrams or writing information down. A “briefcase” section stores forms and markers.

The Command Board is made to be rugged, waterproof, and weatherproof. It includes worksheets to assist

with operations, intelligence, logistics, evacuations, containment, equipment, and personnel; a padded carbonless mission assignment slip for tracking personnel assignments; and guidelines for eight critical incidents including officer-involved shootings, barricaded suspects, missing persons, hazardous materials, bombs, natural disasters, school incidents, and crowds or riots.

“A \$30,000 command post doesn’t typically roll to everyday cop situations,” Thompson says. “This doesn’t replace a large command vehicle. It’s for the copper with the flashlight. It brings simplicity and organization to the 211, HazMat spill, barricaded suspect, or missing person. When you have a situation like that, you have two responsibilities: You have the responsibility of setting up a command post and the responsibility for the event. It can be totally overwhelming. The Command Board eliminates half of the problem because all you do is open it up and you have your command post. As things change, you can fold it up and move. It solves the everyday police situation where we’re working off the hood of the car, the picnic table, or the barrel in the warehouse. All a cop needs is a box of crayons and knowledge of department policies.”

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Thompson is in production with the Command Board, but she dreams of being able to interact with other agencies via palm-sized computer technology. During a large, multiagency response, each agency would be able to link up with all public safety responders and organizations that supply maps and other demographic information.

For more information about the Command Board, log on to www.thecommandboard.com.

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