

The New York Times

An Electronic Cop That Plays Hunches

Interconnecting Police Files Through New Computer System Helps Prosecutors in Sniper Case

By MINDY SINK

TUCSON, Oct. 28 — Officials building a case against the Washington-area sniper suspects are using a new investigative tool to help trace their movements across the country. It is an Internet-based system called Coplink, developed at an artificial intelligence laboratory here, that allows police departments to establish links quickly among their own files and to those of other departments.

During the 21 days in which snipers terrorized the area, investigators used everything from specialized ballistics testing to geographic and criminal profiling to radio and television announcements to track them down. Then, in what turned out to be the 11th hour of the pursuit, they finally reached out to Coplink. As it turned out, John Muhammad and Lee Malvo were arrested before it was fully installed, but now the post-arrest task force is using the system to help connect the dots.

All of the information that was collected — including that from other computer database systems like the Federal Bureau of Investigation's Rapidstart — is now being downloaded into the Coplink database so that the accumulated data can be compared, said Robert Griffin, president of Knowledge Computing Corporation of Tucson, which is turning the prototype in the laboratory into a commercial product. "The more data you get, the better Coplink works," he said.

Coplink was designed by Hsinchun Chen, the director of the Artificial Intelligence Laboratory at the University of Arizona. "It's the Google for law enforcement," he said, referring to a speedy popular Internet search engine that, given a couple of words, can find an array of related Web sites. "Things that a human can do intuitively we are getting the computer to do, too."

During the sniper investigation, which generated hundreds of thousands of tips, the number of potential clues to assimilate was daunting. "We were mobilizing a massive effort," said Lt. Mitch Cunningham of the Montgomery County police. "We had tactile resources, the military, federal, state and local law enforcement agencies and information technology using several products where each one of these had a role." So when the National Institute of Justice, the Justice Department's research and development arm, suggested that the sniper task force try Coplink, the officials agreed.

While no one is suggesting that old-fashioned detective work is being replaced by machines, the idea behind Coplink is to provide a computer program that can save busy police officers precious time and sometimes even help solve cases. That's something Coplink's oh-so-human advocates will boast about like a good story about a rookie getting a lucky break in a case. It is like having a new partner in the form of a computer backing up a cop.

"There is a greater and greater role for technology in law enforcement," Lieutenant Cunningham said.

Software like Coplink's is already part of everyday life, said Rodney A. Brooks, director of the Artificial Intelligence Laboratory at the Massachusetts Institute of Technology. "It's inevitable that it's going to have some law enforcement application, too."

Mr. Brooks said that his company, iRobot, has machines that investigate caves in Afghanistan before military



Agence France-Presse



Chris Richards for The New York Times

Above, old-fashioned shoe leather still essential to the police. Left, Hsinchun Chen, the director of the Artificial Intelligence Laboratory at the University of Arizona, who has developed Coplink, a new investigative tool that he says can consolidate and analyze police data nationwide.

units enter and that such machines are finding their way into municipal police forces. "Columbine High School is a great example of how the police did not know what was going on inside," he said of the 1999 school shootings in Colorado.

Furthermore, he said, the human mind can process and retain only so much information. "There are enormous amounts of facts and connections out there, more than can be held in any one person's mind," he added. "Just like with gene patterns, it's much too complex for someone to remember it all."

Coplink works by linking and com-

Coplink casts a Google-like net for law enforcement.

paring data from new and existing files. For example, Mr. Griffin said, in a Tucson case a man was found lying face down after his throat had been cut and he had been run over by a vehicle. The man was still alive, and before he was taken to a hospital he told people

at the scene, "Shorty did it." The name Shorty was put into Coplink and cross-referenced with the victim's personal data, and within minutes the records showed that the two men had been in prison together.

The program also allows users to look at lists of data or to create graphs and charts showing affiliations among different criminals.

At the moment, the Tucson Police Department is the only one in the country where Coplink is fully installed, although about a half-dozen other cities have begun to introduce Coplink into their existing computer systems. The cost of the program and training can run anywhere from \$40,000 to over \$200,000, depending on the size of the department and existing computer systems, Mr. Griffin said. The development of Coplink has been financed in part by the National Institute of Justice and by the National Science Foundation.

Widespread use should expand the technology's impact. Although criminals often go beyond a single jurisdiction, as in the sniper case, data on a crime, from the type of weapon used to physical characteristics, may remain in a single department's files and the connections between crimes may be overlooked. But Dr. Chen insists Cop-

Continued on Page A19

THE NEW YORK TIMES ARTS & IDEAS SATURDAY, NOVEMBER 2, 2002

YNE A19

An Electronic Cop That Can Play a Hunch to Help Find Criminals

Continued From First Arts Page

link is not just link analysis.

"It takes a large amount of data and, like a super black book of data, has to detect or play detective from this large knowledge base," he said. "It has to consolidate and analyze."

"Even in Spielberg movies," he added, "the robot is learning from the humans and does not just know everything."

Before coming to Arizona, Dr. Chen had worked on knowledge management issues at the Defense Department and the Central Intelligence Agency. A student in a class at the University of Arizona — a police officer, as it happened — asked Dr. Chen whether there might be a way to help the Tucson police share and analyze problems. Dr. Chen took up the idea in 1997, after receiving funds from the National Institute of Justice, and went on to develop Coplink

with the Police Department here.

Lt. Jenny Schroeder of the Tucson police says that the Coplink files are all public records. "This is not classified or secret information," she said. "A lot of criminals are repeat offenders, and they can't hide their behavior." She noted John Muhammad's history of domestic violence.

Because Coplink relies on existing criminal records, it does not necessarily cause Big Brother concerns, but it is not without critics.

"When this kind of knowledge is applied to discrete databases, or an investigation of a single type of crime, say serial rape, then I don't see a lot of privacy issues," said James X. Dempsey, deputy director of the Center for Democracy and Technology, a Washington-based advocacy group dealing with issues of privacy on the Internet. "When you start trying to extend this technology to many different types of crimes or into information other than law en-

forcement, then the problems multiply rapidly."

Mr. Dempsey said one security concern could emerge if Coplink went nationwide and was open to law enforcement officials at varying levels. "The nightmare would be when the bad guys tap into it, and we know how many insecure Internet-based systems there are," he said.

And ultimately, Mr. Dempsey said, there might be too much reliance on technology.

"There is a lot that technology can do with fingerprinting, sharing Department of Motor Vehicle data," he said. "But there seems to be a classic case of believing that technology can solve every problem, and I'm very skeptical that it can."

But Dr. Chen said that in time, if Coplink goes nationwide, it could help law enforcement agencies share information equally and quickly. "Everyone can now be on the same page," he said.