geotime
DESKTOP

THIS SOFTWARE TECHNOLOGY IS HELPING SMALLER AGENCIES DO MORE WITH LESS
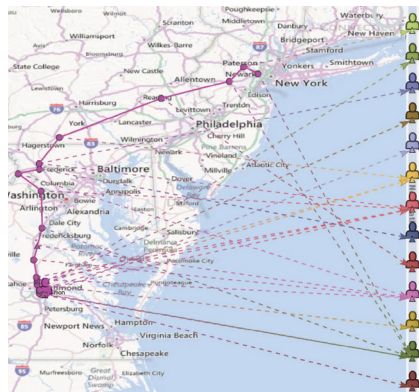
BY KAREN MCDONOUGH

Philadelphia-area jurors convicted suspects in a recent high-profile murder case after viewing powerful video evidence created with leadingedge 3D crime analysis software.

Jurors were shown a video linking several suspects to the slaying of a Levittown, Pennsylvania musician in a robbery for drugs and money case.

The video was created by a small police agency using the computer software, GeoTime, an interactive 3D visualization tool. The software helps police — in departments of any size — to better use their limited resources to analyze and present case data, such as cell phone records. Cell phone data uploaded to GeoTime shows suspects' travel patterns, helping establish timelines for solving crime. Law enforcement in the U.S. and abroad use the software to quickly produce animated graphics of their data to solve crimes and help the courts to prosecute suspects.

"Being from a small agency, our detectives must perform every aspect of the investigation by themselves for the most part," says Detective Joseph Coffman with the Falls Township Police Department. The agency has 55 sworn officers. "Having GeoTime available has been a great benefit. It can potentially push an investigation further by exploring the data in greater detail and finding things which may have been overlooked or unknown."

Link analysis illustrates frequency of connections between suspects and other contacts.

In this case, the software showed investigators how the suspects moved from their neighborhood to the victim's front door and back home on the night of the murder.

The software also allows police to easily produce animated videos, like the one these jurors saw, to recreate crime scenes.

"It's a very powerful presentation," says Coffman, who created the video. "It has an impact on the jury. With GeoTime, I can show the defendants at all times: before, during and after the homicide."
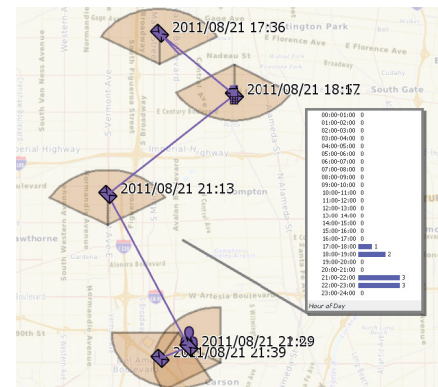
USING GEOTIME

While investigating this case, detectives had a mountain of data to comb through after a court-ordered wiretap on the suspects' phones

yielded an overwhelming 3,000 phone calls and 13,000 text messages.

One thing became clear.

They needed a way to sort through the vast amount of data and present it to a jury in a complete and easy-to-understand way. Coffman, who used the software to show how the suspects were linked to the killing.

He traced the suspects' movements prior to the murder using cell tower records. The suspects traveled to the victim's home and back. The software showed how the suspects placed calls near the victim's home, which bounced off a nearby cell tower.

Easily show suspect movements over time to link mobile phone activity to physical locations.

THE VIDEO

The video features animated graphics showing the suspects' travel path from their neighborhood

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to the victim's home, several of their text messages, and the audio sound of the dramatic 9-1-1 call made by the victim's roommate who found him. With such a vast amount of data, Coffman organized the information into four segments, creating separate shorter videos that were combined into one.

In the first, one suspect sent text messages about buying a gun. The second shows how the suspects meet before the murder. In the third, the suspects arrive at the crime scene as cell tower records placed them there.

In the fourth segment, the mapping sequence was layered with the recorded 9-1-1 call, a frantic call from the victim's roommate to police dispatchers. This real-time recreation of the incident, along with the suspects' travel patterns,

paints a solid picture of the suspects' involvement for the prosecution.

"GeoTime is an asset to any size department because of the high quality video that is made from importing call detail records into the software," Coffman says.

It also performs analytical functions which is a huge time saver for investigators and crime analysts, whose time is typically spent during an investigation performing these functions manually.

Before using GeoTime, Coffman relied on Microsoft Streets & Trips to show suspects' movements based on cell tower records. But that system is limited without tools to produce animated videos or three-dimensional views of data. Now Coffman pairs GeoTime with Microsoft PowerPoint
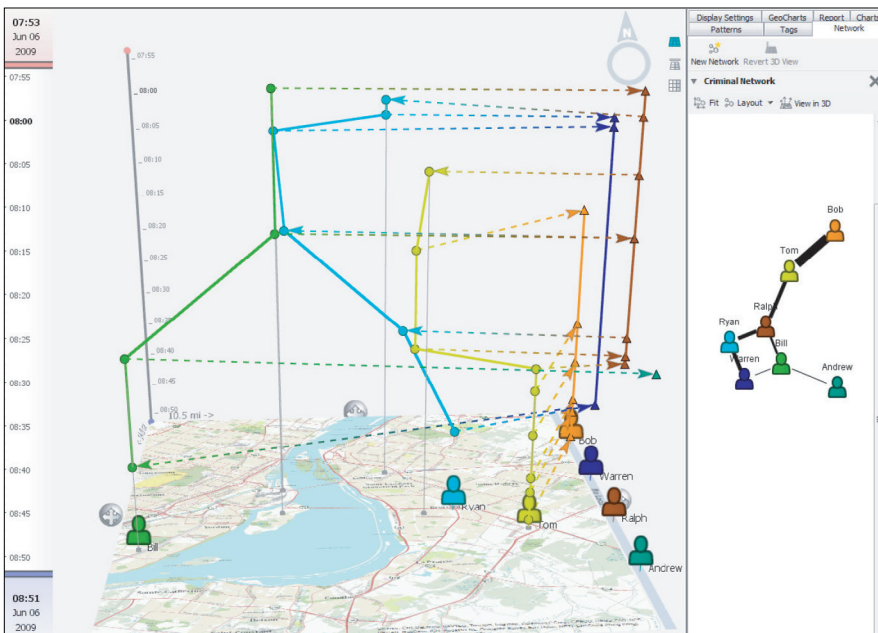
to create videos, which are proving key in criminal cases.
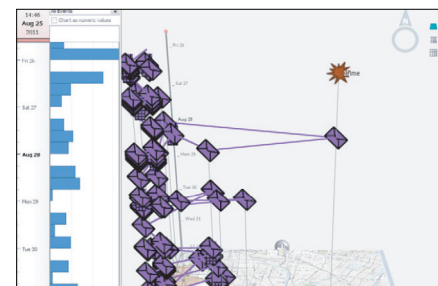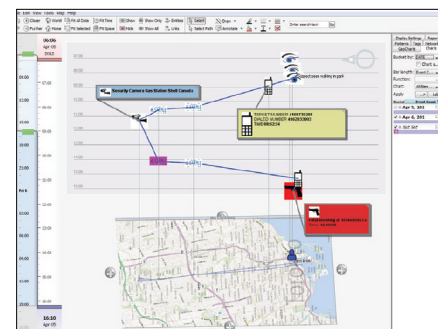
REFUTING AN ALIBI

One of the key suspects in this case claimed he was at work the entire night and didn't participate in the slaying. However, phone records show him at the crime scene, then returning to work after, Coffman said.

In the trials - the suspects were tried separately - the jury saw the video presentation from Coffman. All three suspects were found guilty and sentenced to prison terms.

For Coffman, he continues to leverage cutting-edge technology such as GeoTime as a force multiplier, helping his agency to investigate and prosecute crimes against the citizens they serve and protect.

With multiple phones, identify common callers and visualize possible additional suspects in the network to direct nvestigations and build your case.

Accommodate live data like email pings, and see it mapped out on the map for added geographic detail.