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Livescan Technology

SOME OF THE TOPICS IN THIS ISSUE

- Developing faster livescan technology
- Researching tools for Level 3 identification
- Preserving crime-scene glass evidence
- Finger rehydration produces clearer ridge detail

Major telecommunications institute seeks volunteers to help with testing the performance of first-responder video

Written by Ken Tilley

A **PERSON WHO HAS SEEN** video action break up or block out while watching a live televised sporting event knows the frustration of missing a key play due to a poor picture. For public safety practitioners who use incident video services—police, firefighters, dispatchers, and emergency medical services personnel—a clear picture is much more important. It could be the difference between life and death.

Researchers at the Institute for Telecommunication Sciences (ITS) in Boulder, Colorado are trying to make sure important emergency video comes through clearly. They are in the process of developing requirements for public-safety video applications. The institute is working with the Department of Homeland Security (DHS) to ensure that first-responder radio and video systems communicate clearly and accurately. The institute's research centers on the data collected from public-safety practitioners who volunteer to participate in its subjective audio and video quality tests.

Police and fire agencies tend to purchase radios, cameras, and other communications equipment based on their local needs. Unfortunately, this equipment may not always be of high enough quality or be able to communicate with other similar agencies. Until several years ago, there were no technical standard requirements for emergency communications equipment. The goal of ITS in conducting audio and video research is to determine parameters for quality communications based on the needs of public safety practitioners.

The public-safety Statement of Requirements

The identification of audio and video quality parameters is part of a larger effort to develop a comprehensive Statement of Requirements (SoR) for public-safety communications. ITS is developing the SoR for the public-safety community, which reviews and approves the work, and even participates in the research as incident experts and subjective test subjects.

The public-safety SoR is supported by representatives from various organizations: International Association of Chiefs of Police (IACP); International Association of Fire Chiefs (IAFC); Association of Public Safety Communication Officials-International (APCO); National Association of State Emergency Medical Services (EMS) Directors; National Public Safety Telecommunications Council (NPSTC); and others. A number of federal organizations are funding the work, most notably the U.S. Department of Homeland Security's SAFECOM Program and the National Institute of Standards and Technology (NIST) Office of Law Enforcement Standards.

Reasons for testing the performance of video

"Testing provides the empirical data we want to back up our numbers when we publish our performance requirements," said DJ Atkinson, audio/video engineering team leader at ITS. "New technologies are often presented to public safety without background work for what public safety needs. By setting requirements in advance, we can establish what public safety needs from video to perform at an effective level."

Examples of real-world video applications

Video is becoming an increasingly important tool for those involved in public safety:

- ❏ Responders can wear cameras to provide incident commanders with situation information in a burning building while looking for victims or during a SWAT raid.
- ❏ Aerial videography can aid decisions for deploying personnel by providing a bird's-eye view of a wildfire or the pursuit of a suspect on foot or in a car.
- ❏ Video remote-controlled robots can dismantle bombs.
- ❏ Video is also a key tool for monitoring suspicious activity, capturing license plate numbers, and documenting investigations.
- ❏ Responders can use infrared video in darkness or in smoke where heat signatures can determine whether a door is hot or people are present behind walls.
- ❏ In the field, infrared video can highlight wildfire hotspots or show suspects or lost people in the dark, smoke, fog, or snow.

Video testing is a good experience for participants

Testing is simple and subjective for participants. As a subjective participant, you use your own judgment to provide feedback. Participants are not scored on their feedback. "Participants sit before a video monitor," Atkinson explained. "They are then asked if the video quality is suitable to serve the application for which it is intended, and to rate the video quality on a scale of 1 to 5." A participant from the last video study enjoyed the experience so much that she convinced others in her agency to participate.

Volunteers are needed now to help with this research

ITS is seeking active or retired public-safety practitioners to participate in its subjective video testing at its Boulder, Colorado labs in September 2006 and February 2007.

Travel expenses will be paid. Test participation takes about half a day including breaks, so ITS will have both morning and afternoon stints. If you are interested in participating in this research program, you can get detailed information from...

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Or you can go online and get some information about the project by visiting their website:
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