

Sixth Sense Technology Credited for Nabbing Sex Offender

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The Command College Futures Professional Article is a study of a particular emerging issue of relevance to law enforcement. Its purpose is not to predict the future; rather, to project a variety of possible scenarios useful for strategic planning in anticipation of the emerging landscape facing policing organizations.

This article was created using the futures forecasting process of Command College and its outcomes. Defining the future differs from analyzing the past, because it has not yet happened. In this article, methodologies have been used to discern useful alternatives to enhance the success of planners and leaders in their response to a range of possible future environments.

Managing the future means influencing it—creating, constraining and adapting to emerging trends and events in a way that optimizes the opportunities and minimizes the threats of relevance to the profession.

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A habitual sex offender was arrested today as he wirelessly streamed child pornography from inside of his vehicle. He was parked at an elementary school parking lot when officers received an alert, pinpointing the sex offender's location as well as his recent cyber downloads. The offender was arrested within minutes of the alert. His identity was confirmed through facial and voice recognition "Sixth Sense" software. Believable? It is as believable as video conferencing was in the late 1980's; something that can now be done in the palm of your hand. The technology is here; are law enforcement agencies prepared to make this a reality?

Trending toward a Sixth Sense Device:

Information once retrieved from printed material on a library shelf (typically dated by months or years) is now available real time through a mobile device. This has allowed the transmission of information within seconds of it being "printed" rather than years. As a result, newspaper circulations are down 7 million over the past 25 years. Conversely, in the past five years readers of online newspapers are up 25 million.(The World is Changing Fast, 9/2009) Data suggests that more than 90 percent of Americans own cellular phones and one in two of them are smart phones. (Foresman 2007) The new smart phone will be a device providing its user with information without being asked; a "Sixth Sense" device. What will tomorrows "Just Google it" be?

The Need: High Tech Through the Eras

In a 2010 research conducted by the National Institute of Justice, high priority on technology was identified as a necessity to ensure officer safety. "Through collaboration and

consultation with practitioners, NIJ has identified high-priority technology needs....aimed at ensuring officer safety.” Further noted in this research was the ability to use technology to identify an individual’s identity in a timely manner, including iris and facial recognition.

(www.nij.gov) Following N.I.J.’s lead law enforcement leaders need to embrace the development of devices that bridge the path of information from the thousands of databases, remote computers, and other communication devices to its intended user.

Imagine empowering officers with a handheld (or wearable) device to allow them to see crimes as they occur, and provide them with information necessary to make communities safer, and capture real time video of their response. With the advent of widespread interactive personal devices such as smartphones, the time is now to plan for that device. As we have moved through the eras of policing, such development is only a natural outgrowth of the penchant for policing to take advantage of emerging technologies for their purpose.

Policing in the 21st Century and Technology:

Although some might resist the deployment of novel technologies to allow instantaneous interaction with the myriad of data available today, the police have historically seized opportunity whenever it emerged to do just that. A technology report provided to the NIJ by Seaskate Incorporated, identified three historical eras in policing. (Seaskate, 1998) Police equipment and technology has evolved in each era of policing in the United States. Telephones, Police callboxes and the use of fingerprints to assist in criminal investigations were implemented in the Political Era (1840-1920). The Professional Era (1920-1970) brought regionalized training, crime laboratories, introduction of two-way radios and automobiles. The Technology and National of Crime Era (1970) introduced radar guns and the first effort by the federal

government to foster and develop new technologies to assist the police. Prior to this era the ability to call 911 for help was non-existent and a farfetched idea. According to a 1998 article in the Police Technology magazine personnel at AT&T initially balked at the idea of a centralized phone line citing several reasons, including jurisdictional boundaries. (Seaskate 1998) In January of 1968 AT&T announced the creation of 911 lines.

In 2012, with the availability of surveillance cameras and the capabilities of smart phones officers now have an invaluable tool in crime fighting. With advances already in the planning and development phases, they will have simultaneous information at their fingertips. Interagency communications will benefit from the ability to transmit data real time to their counterparts nationwide. Think of the possibilities if the police had such tools at their fingertips. A brief example of the felony response of the near future illuminates the possibilities.

The Near Future – The Sixth Sense in Action

A bank robber robs a string of banks while he drives north on Interstate 5 headed towards the City of Sacramento from the Los Angeles area. In each incident, parts of the suspect and vehicle descriptions are captured on surveillance footage. All of the media footage is uploaded and immediately accessible to law enforcement through a “Sixth Sense” device. As the robber stops at an intersection next to an officer several hundred miles away from the initial robbery, the officer receives a high alert on his device, indicating that the person and vehicle next to him match the descriptions of several recent bank robberies. The suspect is contacted based on the information given to the officer and ultimately arrested.

In this scenario the device is constantly utilizing available information and providing it to its user, the officer may have not even had prior knowledge of the robberies. Radio communications, identifying information, criminal histories, and intelligence information

provided to officers on the field through the device. It also seamlessly filters all this information. Interestingly, the device as described may already be on the horizon.

Technology Today:

There have been documented incidents in which officers have been injured or put at risk due to the lack of information; similarly violent offenders have eluded capture for the same reasons. In 2010, the National Institute of Justice identified a high priority need in technology for the criminal justice field intended to create technologies that could optimize the flow and capture of electronic information. Most significant amongst their goals was to create systems that would:

- *Identify individuals from video and audio surveillance.*
- *Perform Iris Scanning and Facial Recognition.*
- *Identify individuals in a timely manner.*
- *Remotely compare information to criminal justice databases.*

(www.ojp.usdoj.gov)

In the public realm, anyone can purchase a device that already interacts with the user, provides instant access to information, and engages the user in a “conversation” to facilitate desired ends. That device is the smartphone. In 2011, Apple launched new software for the Iphone 4S that allowed the user to verbally communicate with their phone labeled SIRI.

(www.apple.com) The evolution of SIRI for policing purposes could be a wearable, intelligent, and interactive device for law enforcement. In one high tech lab, this concept is already under study.

Pranav Mistry, a PhD student in the Fluid Interfaces Group at the MIT Media Lab, is in the initial phase of developing a prototype of a “Sixth Sense” device. www.pranavmistry.com

Mistry's device is comprised of a pocket projector, a mirror, and a camera the user interacts with via hand gestures. For example, making a gesture by connecting your thumbs and index fingers together with both hands would signal the device to take a photograph. The mirror projects images back to a smart phone with image recognition software. A barcode projected onto the mirror gives identifying product information, including the best local sales prices. A device that projects information to the user today could deliver it directly to their brain tomorrow. In its current development stage, the device is compact, cost effective, and connects to public information systems.

Mistry's device is an initial look at similar technology available today. Extending on his work, a revolutionized version of a Sixth Sense device for law enforcement should have the ability to:

- *Stream information to and from the user simultaneously.*
- *Utilize voice commands.*
- *Identify individuals through facial and retina scans.*
- *Record and retain data.*

Sadly, an event from the real world exemplifies how significant such a device could be to save the lives of the police.

Trooper Randall Wade Vetter:

On August 3rd, 2000, Texas Highway Patrol Trooper Randall Wade Vetter stopped a 72-year-old driver for not wearing his seatbelt. Unbeknownst to Trooper Vetter, the old man had been known to local officers for statements he'd made — he'd said he would shoot any officer who tried to write him a ticket for not wearing a seatbelt.

Trooper Vetter was attacked by the suspect, who had exited his vehicle and opened fire with a rifle. Trooper Vetter, struck in the head, survived for four days before succumbing to his injuries. (Wyllie 2009)

Trooper Vetter's tragic death sparked the invention of COPsync, an officer safety notification system utilizing several databases for delivering real time information to the officer's mobile computer. (Wyllie 2009) According to an article published by Doug Wyllie of PoliceOne.com News, "Getting vital, real time, officer safety information in to the hands of cops on the street became the life mission of two Texas police officers after the incident that claimed the life of Texas Trooper Randall Wade Vetter" COPsync was launched in April, 2004 by Texas law enforcement officers Shane Rapp and Russell Chaney. (www.policeone.com) Extending on the Copsync philosophy, sixth sense technology would go a step further to deliver real-time information through the device. Some might think the police would be reluctant to partner with devices that may offer "too much, too often;" in fact, the pathway to this type of interaction is already in the field.

Several law enforcement agencies now equip their police officers with audio/visual recording devices to assist in court proceedings and civil liability. Compact recorders with enhanced abilities are infiltrating law enforcement organizations and are quickly becoming a mandatory tool worn by officers. In October of 2009, San Jose Police Department became the first police department in the nation to have video cameras as a part of their officers uniform.(Rusk, ABC 7) Audio/Visual hardware worn by officers is a significant step toward the evolution of a Sixth Sense device.

Officers are already beginning to wear cameras on their uniforms; a Sixth Sense device similar in size would be an easy transition. Offenders would know they were being recorded and

that whether they were truthful or not the officers had accurate real time information. This knowledge alone would weigh on an offenders decision not to be violent. This device will hold officers and the community accountable for their actions. All complaints or allegations could be reviewed by authorized administrative personnel furthermore enhancing levels of trust.

Sixth Sense technology will change the way many systems operate within the Criminal Justice System. For example, cases will have video evidence to assist in changes to case law as well as adjudicating cases. Policies articulating Sixth Sense evidence retention and management procedures will have to be developed. Law enforcement leaders must ensure accountability of the policies and procedures to ensure that all information transmitted though the Sixth Sense device is secure and only used in an official capacity.

Recommendations:

Budget shortfalls cannot be an excuse; if planned and implemented correctly these devices will provide a safer environment while quite possibly decreasing the numbers of sworn police officers. Costs will always be a legitimate concern for private and public sector leadership. As presented a Sixth Sense device, should cost about the same as supply an officer with a firearm. Grants through vendors and government agencies could help offset costs. In fact, Office of Justice Programs Information Technology Executive Council establishes guidelines for funding local law enforcement agencies with safety driven by technology. The council's goal is to ensure that technology is deployed in a manner that allows information-sharing across agencies. In a recent Technology to Fight Crime program OJP's website indicates, "Technology helps to improve public safety in several ways. For example, enhanced criminal records and identification systems keep high-risk individuals from obtaining weapons or positions of trust." (www.ojp.gov)

Law enforcement organizations collaborating with each other can solicit the help of vendors in an effort to develop a physical device. There are several databases available to law enforcement personnel that would need to be merged into this device, in a manner similar to the way applications are currently delivered to smartphone users. The end user will need to be trained on how to utilize the device safely, and the community will need to be aware of what the capabilities and restrictions are of such a device. Contacting possible vendors for this device would be the first step. Vendors would need specific guidelines for the development of this device. An information technology specialist familiar with police databases and police practices should be involved from the beginning.

A Sixth Sense device will become reality, regardless of law enforcement involvement. The time is now for law enforcement leaders to embrace this technology and direct the devices future role in law enforcement. As we continue to progress and adapt to using enhanced technologies, we hope our sixth sense officers can become safer and more efficient in their duties. In a desired future, a sex offender would never be able to be near potential defenseless children without the knowledge of police.

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