



Cases of Unknown Identities

On a typical weekday afternoon the Pinellas County Sheriff's Office (PCSO) will deal with individuals such as: a man arrested for disorderly conduct; an inmate awaiting release from the detention facility; a thief who has used the identities of his victims to gain access to their finances; and the screening of wanted criminals, identified threats, or suspected terrorists coming through facilities like Pinellas County Courthouse or the Jail Visitation Center.

What does your agency do when a disorderly man has no identification on his person? Or, when the officer in the field is presented with questionable credentials or no credentials at all? Or, how do you prevent the wrong inmate (with a violent criminal history) from being released back into the general population? Or, how can you verify that the demographic information on a suspected thief does not match the image on his fraudulent license?

Mobile Identification System Workflow

Law enforcement deputy takes a digital image with an off-the-shelf digital camera.

Image is transferred to the laptop.

Image is enrolled into system for searching against the facial database.

MIS downloads, saves, and creates a facial image template, searches an image database, and returns a match gallery to the patrol car laptop/remote site with a single click.

Deputy identifies facial matches returned from the search.

Deputy retrieves and compares demographic information for the individual, such as names given.

Mobile Identification System Case Study: Pinellas County Sheriff's Office (PCSO)

The Problem:

The cases illustrated on the left describe the identity scenarios law enforcement officials face each and every day. Whether to solve crimes, ensure jail security, protect the general public, and help to ensure America's national security, law enforcement's ability to put a name to a face is critical in making these timely decisions that could be a matter of life and death.

Over time, the PCSO, like many law enforcement agencies, found itself faced with cumbersome booking, release, and criminal investigation processes. The most prominent problem resulting from these inefficient processes was the lack of timely information, which often allowed suspects to get away with providing false identification, hampering law enforcement and sidetracking investigations.

The PCSO had also encountered a number of problems with its legacy booking system, such as a limited number of photos per record, a proprietary format and inadequate availability of these records throughout the department.

The Pinellas project needed a complete replacement of the mugshot system used to capture an inmate's image and demographic information, including any scars, marks or tattoos, and something that field officers could utilize when presented with questionable credentials or no credentials at all.

A combination of new solutions were needed, and those solutions were, face recognition technology, and the Mobile Identification System (MIS) which utilizes face recognition.

The Solution:

To address each of the above scenarios, Sheriff Jim Coats and the Pinellas County Sheriff's Office (PCSO) in Florida have taken a leading role in employing face recognition technology for state and local law enforcement.

The face recognition solution developed helps the PCSO positively identify and verify individuals in each of the above identity cases.

To assist Pinellas County Sheriff's Office personnel in the identification of unknown people in the field, a wireless facial recognition search system known as the Mobile Identification System (MIS) was designed.

The MIS solution allows a patrol deputy to compare a digital image captured in the field using a digital camera, against the entire regional database in less than a minute. The system displays the closest image matches back for visual comparison by the deputy.

By applying experience with secure identification and face recognition, and the expertise from numerous PCSO corrections and investigative personnel, a new mugshot system was developed to address prebooking, booking, and release processes:

Pre-Booking:

Immediately when a prisoner enters the Pinellas County Jail, his or her photograph is taken.

Formal Booking:

Using the picture and basic demographic information captured in prebooking, the deputy selects the individual to be booked from the pre-booking queue.

Release:

Before being released, the picture taken at the time of release is compared against the formal booking image. The result is a side-by-side comparison of the two photos for the operator to view, along with a green, yellow, or red rating based on the face recognition results, ensuring the release of the right inmate.



The PCSO found face recognition and mobile identification to be invaluable tools in providing quick and accurate identity information on individuals, allowing officers to correctly identify even the most uncooperative suspects and conduct more efficient investigations.

The Results of Face Recognition:
 Facial recognition is one of the most powerful new technologies being used by law enforcement. By using face recognition on a prebooking image, deputies have the ability to compare the suspect's face against the 5,000,000 images already in the database and match the image to the correct identity.

With statistics showing that over 60% of those arrested are repeat offenders, the PCSO identifies hundreds of individuals each year using only their faces.

The PCSO has partnered with other state and local agencies in Florida to maximize the effectiveness of the system. Some of the agencies participating include:

- Florida Department of Corrections
- Hillsborough County SO
- Miami Dade PD
- Orange County SO
- Leon County SO
- Duval County SO
- Hernando County SO
- Polk County SO
- Pasco County SO
- Sumter County SO

The Results of MIS with Face Recognition:
 By using MIS in conjunction with face recognition, deputies can conduct a face recognition search wirelessly to determine if the individual has been previously arrested. As a result, deputies can immediately determine if an individual being questioned has a prior criminal record and make a necessary arrest on the spot.

In one instance, the PCSO deputies responding to a disturbance call found an uncooperative suspect who provided what turned out to be a false name and date of birth, which made it impossible for deputies to identify the suspect through traditional measures. Subsequently, the PCSO deputies used MIS, powered by the leading face recognition technology, to quickly identify the 27-year-old female, who was wanted on 2 felony charges. Upon being confronted with the positive photo match, the suspect confessed to her true identity and was subsequently arrested and booked at the Pinellas County Jail.

Since implementing the technology in Pinellas County, FL, this system has been used to make over 238 positive identifications and 362 identifications leading to arrests since starting the project in Pinellas County, FL.

Pinellas County has established itself as a leader in employing the emerging technology of face recognition to verify identities and enhance security. Today, Pinellas County and L-1 are leading the way across the country for law enforcement agencies to follow in the effort to positively identify criminal elements or individuals who would threaten the national security of the United States of America.

“Throughout each and every project phase, L-1’s staff and efforts in developing our identity solution have been outstanding. By working closely with us, L-1 has exceeded our expectations in creating a real world solution to address our booking process and criminal identification issues.”

– Capt. Jim Main, PCSO

“Quick image and criminal history record retrieval has become an essential utility for law enforcement agencies in Pinellas County. The level of support for image retrieval using MIS is overwhelming, with over 215,000 hits recorded on the system within the first year of its availability.”

–Scott McCallum, PCSO

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