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Final Copy of Case Study

Status:

Laureate

Year:

2013

Organization Name:

Plugout

Organization URL:

<http://www.plugout.com>

Project Name:

Taino Towers East Harlem Pilot Block Intelligent IP Video Surveillance with Facial Detection Access Control

Please select the category in which you are submitting your entry:

Safety & Security

Please provide an overview of the nominated project. Describe the problem it was intended to solve, the technology or approach used, how it was innovative and any technical or other challenges that had to be overcome for successful implementation and adoption. (In 300 words or less.)

In 1972, one of the most ambitious government-funded, low-income housing projects broke ground in Harlem. Spanning an entire city block, the Taino Towers complex boasted a four-story central building surrounded by four 35-story towers. The project was known as a "pilot block," meant to serve as a new urban model for the integration of low-income housing into large U.S. cities. Today, Taino Towers houses 3,000+ tenants, a medical facility, Touro College, a Magic Johnson Foundation community office, a pre-school and daycare, and a block-wide underground parking garage. While the Taino Towers project was created to improve the lives of low-income families, the area had some of the highest crime rates in all New York. Several analog CCTV security projects were

implemented over the years in an effort to reduce crime, yet gang- and drug-related incidents continued to rise. Since most crime committed at Taino Towers was initiated by non-residents, management felt that a move toward digital technology could help proactively prevent incidents and restrict access of unwelcome guests. In May 2011, Executive Director Maria Cruz and Assistant Director Manny Diaz hired IT and security integrator Plugout to deploy a state-of-the-art digital security solution. Plugout deployed IP-based megapixel surveillance cameras from Axis Communications throughout the entire square block running on a Genetec video management software (VMS) platform. Inside the buildings, the cameras and software integrate with a wireless two-way communication alert system in each elevator. For the last phase, Plugout implemented FST21's SafeRise in motion identification system as an innovative access control solution for main building entry points. The seamless combination of these technologies has stunned the Taino Towers management team while successfully eliminating crime up to 90%, according to the DAs office.

When was this project implemented or last updated? (Please specify month and year.) Has it incorporated new technologies and/or other innovations since its initial deployment? (In 300 words or less.)

The two-phase project began May 2011. In Phase I, 66 Axis IP video surveillance cameras were deployed on all outdoor corners of the block and sidewalks, in the courtyard and playground, as well as at building entrances, lobbies, hallways, elevators, and rooftops. The cameras integrated with Genetec's Security Center VMS, HP servers and Cisco networking gear. With a project of this size involving multiple buildings, powering the solution proved an initial challenge. An underground Cisco private mesh fiber network and rooftop Cisco/Ubiquiti wireless mesh network (35th floor of each building's roof) were installed, and Ethernet networking was implemented within each building, equating to approximately 120,000 feet of Category 5e wiring. Phase I took six months. In Phase II, 78 additional Axis cameras were installed on the network, bringing the total camera count to 144. The exceptional clarity, processing power and high resolution of these cameras made it possible to integrate intelligent video applications, specifically the FST21 SafeRise system. Since the FST21 SafeRise in motion identification software was not part of the initial plan, it was launched as a pilot October 2012. SafeRise is the only system of its kind that replaces traditional key and card access control systems by utilizing residents' facial images, height and gait for entry authentication. The intelligent recognition analytic is so accurate and fast that it is able to unlock a door with in motion identification from 10-12 feet away in less than 1.5 seconds under normal lighting. This last phase took eight months totaling a year and a half for the entire project. Taino Towers management was overly impressed with the state-of-the-art technology deployments as well as how effective the system proved to be in protecting residents and property, with a 90% decrease in crime.

Is implementation of the project complete? If no, please describe the project's phases and which phase the project is now in. (In 300 words or less.)

The two initial phases of the project are complete, but the success of the system has led to the planning of an additional phase. The facial recognition system with SafeRise and Axis is currently being deployed to all the buildings. Phase 3 will take the project to the street level to capture more activity in the surrounding area by deploying an additional 60 Axis IP cameras in 2013.

Please provide at least one example of how the technology project has benefited a specific individual or organization. Feel free to include personal quotes from individuals who have directly benefited from the work. (In 300 words or less.)


Taino Towers had been a well-known home of crime and illicit activity. Despite its analog CCTV systems, the multi-building complex was quickly becoming a hot bed for the area's criminals rather than a model for low-income housing in a new urban development. However, since implementing the IP system, more than 95% of all high crime activities have been caught and identified. "This camera system is exceeding our own expectations. Not only has [the video quality and intelligent features] lead to the arrest of perpetrators, but the system is acting as a deterrent by making non-residents think twice before indulging in any unlawful activity at Taino Towers," said Francisco Lantigua, Director of Security Operations, Taino Towers. The high-quality, usable video captured by the integration of Axis cameras, Genetec software and FST21 has led to a dramatic increase in arrests in one of the most criminally active areas in New York. More importantly, Taino Towers has seen a 90% decrease in crime, making it a safer and more secure community. The new surveillance system has played a vital role in helping police solve recent incidents, including a fatal stabbing, armed robbery, and destruction of personal property. Specifically in July 2012, a gunman was apprehended in under an hour as a direct result of the surveillance system. On top of the #1 goal of crime prevention/reduction, one unforeseen benefit has been the operational efficiencies gained by using the IP system to manage Taino Towers' 50-person staff. Axis megapixel and PTZ cameras with Genetec's software has allowed management to: Improve staff effectiveness by tracking unusual activity from the central base while simultaneously dispatching patrols. Maximize staff scheduling. Train staff when mistakes are made. Hold staff accountable if errors occur. Verify time clock punch ins/outs.

Would this project be considered an innovation, a best practice or other notable advancement that could be adopted by or tailored for other organizations and uses? If yes, please describe that here. (In 300 words or less.)

Both. The Taino Towers project combined some of the best security technologies from the industry's leading vendors for a complete, effective solution. This system could be adapted to meet the security needs of any organization that wishes to control who exactly should be granted access to their property, such as multi-tenant buildings, community housing, enterprise offices or schools and universities. Having overt cameras alone can deter illegal activity in high-crime areas, but the intelligent features of this system has helped reduce crime by 90% (NOTE: more than 60% of all surveillance systems installed today use analog technology IMS Research). The system's overall ease of use has also been instrumental by providing security staff and the NYPD with instant access to live video and evidence. Additionally, the open platform integration features of the Axis cameras and Genetec VMS allowed Plugout to equip each building's elevator with a wireless two-way communication alert system without adding additional hardware. Security and engineering staff receive instant alerts when the elevator emergency is activated and can use video verification to determine whether the event is a false alarm or a real emergency. The FST21 SafeRise system makes this a full and preventive solution. Some benefits include: 1) Banned tenants are no longer allowed access 2) No one can lend their keys to unauthorized personnel or guests 3) No one can enter premises without a facial image capture 4) If desired, parents are sent an SMS or email with image when their children arrive home safely 5) Traffic flow is electronically measured to better staff security. Crime has all but moved away from Taino Towers. In fact, the DA's office said they would love to see the system expanded another 10-15 blocks to further reduce crime and help apprehend criminals.

If there are any other details that the judges should know about this project, please note them here. (In 300 words or less.)

The new Taino Towers security project has captured many incidents, and 95% of the time law enforcement are able to not only identify the criminals, but also have enough clear evidence to make arrests. The new word out at Taino Towers is, "If seen on camera, then you are caught on camera," as compared to the old analog solutions where facial identification was impossible for most incidents and criminals knew it. Even if the system encounters technical problems or the cameras are damaged or tampered with, alerts are automatically sent to Plugout for immediate investigation and issues have been resolved within very short time periods thanks to the remote health monitoring ability of the systems. There was one specific incident where the capabilities even shocked us as systems integrators. We installed a 5 MP / 1080p HDTV quality AXIS P3367-E camera on



the 35th floor of each tower. One day, through the pouring rain from 1,000 feet away, one of the cameras clearly captured a small 10lbs. dumbbell being thrown out a window of a 23rd floor apartment of an adjacent tower. The dumbbell plummeted twenty stories and crashed through the roof of Touro College and into a fortunately empty classroom. Since the Towers had past issues of residents throwing dangerous items out their windows and someone could have been killed or seriously injured if students had been in class, the apartment was immediately identified and the family members were promptly arrested and evicted. The dozens of existing analog cameras atop each roof were unable to properly capture the incident, yet with the implementation of only six IP cameras from Axis, Taino Towers can see these types of incidents -- day or night. We would have never believed it if we didn't see the video with our own eyes.