I3 Systems Use Case

Context Aware Vehicles

Current Operations: Cities strive to be responsive to citizen needs, complaints, and issues as best they can, but are often dependent on citizens to identify where city services fall short of expectations. For high priority services, some cities establish specific action teams to patrol targeted areas so the city can proactively identify before citizens become concerned.

Issues: When cities have to wait for citizens to complain before service issues can be identified and acted upon, the city becomes dependent on citizen frustration and dissatisfaction to drive operational quality. And, while employing roving teams to proactively identify open issues related to city services does allow the city to become more proactive, each team is expensive to maintain and support. These teams need specialized training related to various city services and multiple specialized teams are needed to support the plethora of services the city provides.

Solution: i3 Systems envisions a new path forward. I3 Systems is working with universities to build an environment that makes use of vehicle mounted smart cameras and on-board AI (Artificial Intelligence) appliances. This mobile network of context   aware vehicles is supported by the i3 data fabric and a network of departmentally specific vision analytics software to better support city services. The intelligent network of mobile digital cameras provide an automated means of detecting and identifying areas of concern so support crews can be cost-effectively scheduled to address the issues before on . The programmable AI appliance provides a second line of issue identification defense and is programmable in order to allow the city to customize the vision analytic to meet the city's unique concerns while fitting within their data operations guidelines. The alerts raised by this system are filtered and routed to the operational departments with need-to-know information supported by departmentally specific AI assisted operational support systems. If a department finds a situation of urgent concern, the i3 System facilitates connecting the department to a live video feed alleviating the need for 24x7 manual event monitoring and transmission of data over expensive mobile networks. The system has been designed to support customized and mobile monitoring of a city's environment in order to bring the right kind of attention to situations where and when it is warranted.

Benefit: While the system is designed to use the latest in AI technology and vision analytics, it converts video images to a series of non-video situational alerts in the field rather than backhauling large quantities of data to a central or cloud based analytics system. By making use of these intelligent edge processing systems, much of the cost associated with transmission and storage of video images can be avoided. This targeted method also reduces privacy and data security concerns because while the system consumes video, the images are not saved unless a specific issue has been identified.

In addition, the programmable nature of the tiered vision analytics approach allows the city to easily adapt the system to support each city's individual data use policies. For example, as new issues arise, new analytics can be added to the system or policy changes enacted. Existing analytics can be altered or removed to ensure complete compliance with administration directives and policies. Independent analytic modules can be acquired from commercial sources, local educational talent pools, or other sources. And, department specific AI support systems gives each operational department the freedom to select oversight systems that have been tailored for their departmental needs by specialists familiar with their departmental needs.

Status: This is not a dream. i3 Systems is currently working with the City of Los Angeles and a host of technology focused partners to deploy this system as a series of modular building blocks. The base infrastructure is currently being deployed and the development of a series of AI enablers are being incorporated into the system in late 2022. Feel free to reach out it i3 System to discuss how your city might adopt this framework to support the needs of your city.