



Product Information

V.A.I.L. Pattern Recognition

V.A.I.L. (Virtual Analyst Intelligence Logic) is a technology that finds patterns in databases, documents and other streams of data. Using a rules engine, V.A.I.L. can find occurrences of patterns (crimes, incidents, etc) in real-time by proximity, date, time or any other factor that can be extracted from the data source.

V.A.I.L. is a non-invasive engine that sits along side existing IT systems as a value-add technology. V.A.I.L. inspects data, applies pattern matching logic and stores information in a global pattern repository. As patterns are identified in real-time, key stakeholders are made aware of their occurrence through alerts.

Identified patterns are presented to end users through a web based visualization and analysis tool. Here, the end user can view, analyze and disseminate pattern results as needed.

Case Study

East Orange Police Department un-V.A.I.L. crime patterns



In September 2008, the Sentinel Software Group (SSG), Inc. engaged the East Orange Police Department (EOPD) in a 30 day proof of concept using our flagship pattern detection technology the Virtual Analyst Intelligence Logic (V.A.I.L.) Engine.

As progressive adopters of the award winning COMPSTAT crime reduction methodology, East Orange wanted to take the next step by identifying crime patterns and trends more frequently using cutting edge technology.

SSG integrated the V.A.I.L. engine in the EOPD IT environment using our Geocoding, Natural Language Processing and Mapping options. V.A.I.L. was pointed at the existing EOPD Records Management System, evaluating CAD, Incident and Arrest information.

Within the first few hours of processing over 10,000 records, spanning six (6) months of data V.A.I.L. reported 3,164 patterns. Of these pattern the engine found 2,702 investigative patterns and 462 tactical patterns. Overall, V.A.I.L. discovered 4,270 crime patterns out of 13,215 records processed throughout the proof of concept.

Throughout the proof of concept, V.A.I.L. Consistently produced candidate burglary and robbery patterns in real-time. Tactical patterns such as assaults and larceny were identified and provided EOPD the opportunity to deploy manpower in real-time hence reducing / preventing crime in near real-time.

The V.A.I.L. engine provided EOPD with a force multiplier by performing the work of many analysts 24 hours a day while providing qualified intelligence.
