

Eliciting the Requirements for Intelligent Systems in Law Enforcement

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EXECUTIVE SUMMARY

Law enforcement, a difficult occupation, is now faced with the additional threat and already epidemic onslaught of criminal activities online. Because of the fact that the Internet is a growing phenomenon, any attempt to come to terms with this threat must be scalable. The reliance on manually monitoring the Internet for criminals is not scalable, and will not be sufficient. Analytic Services Inc. (ANSER) has developed “innovative prototypes” in an attempt to prove the feasibility of monitoring the Internet using the technology of Intelligent Internet Agents. The development of such “prototypes” differs from that of the development of “systems.” The latter refers to the development of computer-based tools and applications expected to seamlessly integrate with the current practices of the targeted organizations, while the former refers to the development of “innovative technologies” that are intended to assist organizations in making “technology leaps,” and to prove the feasibility of the approach taken. In this case, we

will describe our actual experience designing, implementing, and deploying three such “innovative prototypes.” Two are actually intelligent agents; the third is an intelligent biometric application. As is the case with all valid reports, we’ve attempted to stick with the facts, and have left the good along with the bad. And, so...

*While I’m but a scribe, ’tis for you to decide
How we have erred, and where we were fair*

ORGANIZATION BACKGROUND

The Technology Provider

Analytic Services Inc. (ANSER) is a not-for-profit public service research corporation. Chartered in 1958, ANSER has been a leading source of unbiased studies and analysis in such topic areas as: Acquisition and Decision Support, Policy and Doctrine Analysis, Education and Training, and Intelligent Technology Assessments. ANSER is also known as home of the “Institute for Homeland Security” and the “Journal of Homeland Security.”

The research that forms the basis of this report has been conducted at ANSER Fairmont, a field office located in Fairmont, West Virginia. In 1998 they began work in Intelligent Internet Agents with the early Java-based Web-crawling technology (Java is an Internet-enabled, but general-purpose programming language), text recognition and categorization algorithms (they determine the content of natural language documents, e.g., e-mails), and intelligent search tools (they take a description of what to “look for,” then go on the Internet and find it), developed as part of an initial grant from the National Institute of Justice (NIJ) on face recognition and intelligent software agents. The culmination was several functional prototypes currently being applied in law enforcement. The prototypes are intended to determine the feasibility of and assist with the introduction of new technologies into law enforcement. Newshound and COPIES are those intelligent search agents and are the subjects of this report.

At the same time, ANSER Fairmont began research on face recognition technologies. As part of the same grant, they developed several functional prototypes. The prototypes are being applied in law enforcement. The functional prototype IdentiFace is the most refined and is currently being put to daily use at a major law enforcement agency. It is also the subject of this report.

ANSER’s Intelligent Internet Agents and Face Recognition technologies are currently being deployed at each of the three major levels of law enforcement: local, state, and federal.

The core of ANSER Fairmont consists of 15 research scientists and a program manager who supervises the office. Half of the research scientists are sub-contractors who are employed by smaller software companies in the local area. The core research staff is highly skilled, research-oriented computer scientists, and many with a master’s or a PhD in Computer Science or a related field.

In addition, there are high-level managers, including the CEO and the corporate officers, at ANSER’s headquarters in Arlington, Virginia.

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