Next-Generation Information Analysis Technologies Enabling Improved Situational Awareness

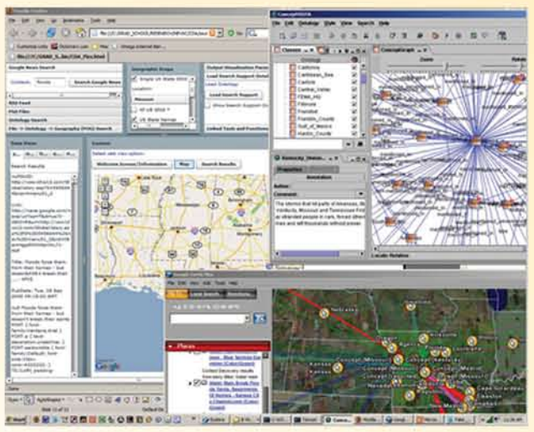
Enable the best use of ***available information*** combined with ***human judgment*** to make accurate assessments in near-real time.

Challenges

- Manage massive volumes of data
- Synthesize and integrate heterogeneous information sources
- Identify and track key threads of information
- Detect anomalous situations and non-obvious threats
- Understand and explain complex information and analysis results
- Identify patterns and trends in human activity

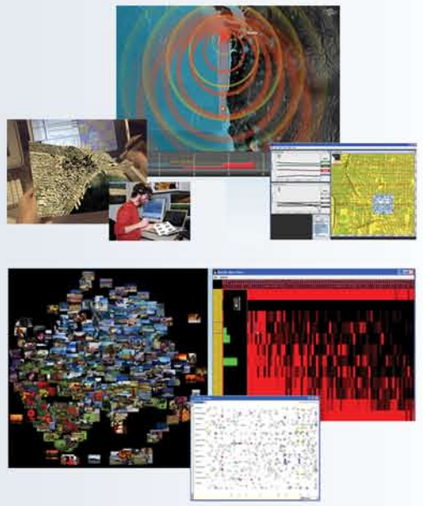
National Laboratory Contributions

- Persistent visual surveillance of critical infrastructure and surrounding areas
- Modeling and prediction of group radicalization
- Large-scale data analysis
- Document visualization and categorization
- Visual analysis methods for greater comprehension
- Lightweight analytics for mobile (PDA, laptop) platforms
- Large-graph analytics for network analysis



Collaborations

- DOE National Laboratories
- Washington State Fusion Center
- Automated Regional Justice Information Systems, San Diego
- US Coast Guard (Seattle & Alameda)
- U.S. Immigration and Customs Enforcement Office of Intelligence & Office of Investigations
- U.S. Customs and Border Protection Office of Trade
- International Association of Chiefs of Police
- Universities (e.g., University of Washington, Penn State, Georgia Tech, University of North Carolina Charlotte, Stanford, University of Maryland)



Visualization & Analytics Centers

Capabilities

- Content extraction from heterogeneous data sources
- Analytics methods, including categorization, trend identification, thematic clustering, anomaly detection, entity extraction, and relationship identification
- Visual display/representation of information from diverse information feeds
- Unique tools for data input and normalization from heterogeneous data sources
- Development of applications based on operational requirements
- Real-time video processing capabilities for facial identification and known associates graph generation
- Enterprise architectures for efficient real-time information fusion, triage, and dissemination
- Visualization and modeling for situational awareness in natural disasters

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Science-Based Solutions for Homeland Security