Oak Ridge National Laboratory

Sensorpedia

SERRI Southeast Region Research Initiative

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Prevent, Protect, Respond, Recover

Homeland Security Challenge:

Getting the right information to the right individual at the right time remains a key challenge for effective preparedness, response and recovery. With instrumented measurement and networked surveillance of the national and global infrastructure and environment growing at a rapid pace, vast amounts of data are being collected. However, with all that these rich data sets can tell us, the problems of interoperability and information within the homeland security community is a challenge.

Research Project Solution:

Oak Ridge National Laboratory (ORNL) has been actively involved in research to formalize the engineering principles and best practices behind emerging Web 2.0 concepts to solve real-time data sharing problems for national security and defense, public health and safety, environmental and infrastructure awareness, and emergency preparedness and response. Sensorpedia, a program developed by Oak Ridge National Laboratory, uses Web 2.0 principles so communities, individuals, and enterprises can find, publish, and subscribe to sensor information online. Sensorpedia consists of web services that are designed to accept and publish data using established standards such as ATOM and GeoRSS. The Sensorpedia user interface is designed to allow extensions by third-parties.

National Implications:

Sensorpedia combines familiar and commonly available social networking technologies with proven cyber-security technologies to simplify sensor interoperability while preserving the integrity, security, authenticity, and provenance of sensor information. It provides a tool for near-real time collaboration among homeland security communities that need to share information for public health and safety, emergency preparedness and response, and general community awareness and outreach. Sensorpedia provides easy access to information and improves interoperability among federal, regional, and state agencies that need to communicate quickly and effectively.

ORNL's formalization of Web 2.0 tools for sensor information sharing.

The beta version of Sensorpedia interfaces with more than 3500 sensors around the world constituting a diverse dataset with weather data currently constituting a majority of the open data within Sensorpedia.

www.serri.org

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