EARTHVISIONZ

Project Name:
Spatial Technologies for All Resources-Air Force

Client:
USAF, Air Education Training Command
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Period: 2004-2009

Project Keywords:

- Geospatial Decision Support Tools
- Decision Management
- Remedial Optimization
- Groundwater Studies
- Risk Assessment
- Collaborative Process
- Innovative Technology

Description of Services:

Earthvisionz was retained by the Air Education Training Command (AETC) to provide scientific, regulatory, and GIS services to support planning, remediation, and hydrogeologic analysis at 12 AETC bases. The scope of work includes: data collection/interpretation for the preparation of GIS libraries showing the nature and extent of environmentally restricted areas; creation of a GIS-based Decision Support Tool (DST) to be used with 13 datasets; meeting facilitation; regulatory negotiation; optimization of long-term groundwater monitoring programs; review and update of hydrogeologic conceptual site models and numerical groundwater flow models; human and ecological risk assessments; web-based technology transfer; and as-needed technical consultation.
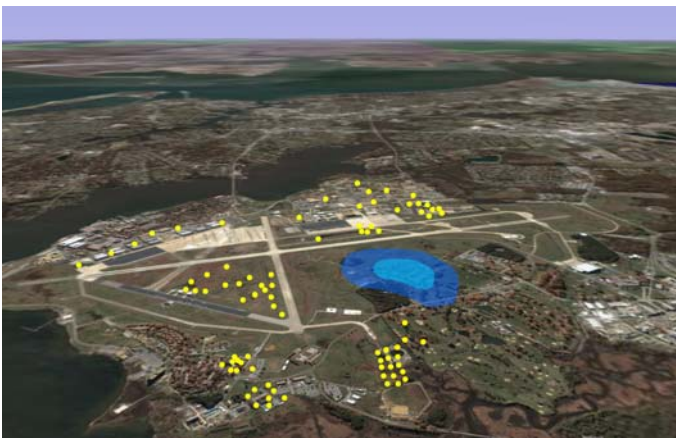
STAR uses a virtual globe as its visual front-end, or browser, much like one uses Internet Explorer as a web browser. STAR is a system of web services that connect to any virtual globe browser such as NASA WorldWind, Google Earth, ESRI ArcExplorer, MS Virtual Earth, etc. STAR's business and scientific application software is viewed via a dashboard on the virtual globe homepage. STAR has created many technical and management tools as well as other features and applications.

STAR's virtual globe incorporates:

- a GeoBase layer manager for automatic viewing of GeoBase layers on the virtual globe;
- allows for all other user applications to be accessed via the STAR dashboard;
- delivers commonly used and user-customized web services;
- has workflow functionality tools, live video feeds, management and contracting tools;
- delivery systems for automatically hooking up your databases and publicly available databases in a 3D virtual globe environment;
- archives, stores, and geographically references reports, documents and other important information that can be instantly accessed, and can be used as a presentation and communication platform in a highly secure collaborative environment.

Virtual Globe Features:

➢ Intuitive, immersive navigation for the entire earth
➢ Globe layer control and management
➢ View WMS compliant served imagery
➢ View export to clipboard
➢ 'Hot Layers' allow users to access web resources and application logic by clicking on features on the natural or built landscape
➢ 3D object support
➢ Plug-in API
➢ Network traffic monitor
➢ Visualize local geospatial data
➢ Time Animation control
➢ Real time weather
➢ Fly-through animation
➢ Raster based symbology
➢ Available Plug-in applications
➢ Rapid map overlay for scanned images and maps
➢ Real time GPS location monitoring
➢ Real time RSS feed support

Additional Software Services:

➢ PDF Document access and search
➢ Cross-sections, plume maps and other environmental data sets
➢ GeoBase Overlays
➢ ERPIMS data query and analysis
➢ Bookmarks and Presentation Support
➢ Land use Planning tool set
➢ Customer Support, help desk and training
➢ Server administration
➢ STAR user access management
➢ STAR collaboration server management (backup and data updates etc.)

STAR enables the following functionality for all users:

➢ Sharing of Applications
➢ Sharing of New Data Sources on the Web
➢ Decision Support
➢ Collaboration with agencies, regulators and stakeholders
➢ Management and Budget Tool
➢ Historical Document Archive and Access
➢ Communication – email, presentations, fly-throughs
➢ Reports, Figures, and Document Creation

General types of problems that STAR can solve:

➢ Accessing and visualizing information that can be connected in some clear way to the natural or built landscape. For example, a great deal of USAF information is related to buildings, airspace, targets etc.
➢ Visualizing 3D information particularly as it changes over time. For example, ground water plumes, air pollution, air space restrictions, and buildings.
➢ Accessing multiple data stores and web services simultaneously, in the moment, in order to rapidly build the necessary information support for making an unanticipated decision. Perhaps the most powerful feature of STAR is the unprecedented ability to aggregate web services on the client, on the fly.
➢ Collaboration between many stakeholders in any type of process that involves the natural or built landscape.
➢ Accessing publicly available geospatial data distributed over the web including imagery, national infrastructure, local cadastre, zoning, land use etc.