

Case Study: US Department of Defense MilitaryHOMEFRONT LBS

Based on eSpatial's iSMART®, the US Department of Defense MilitaryHOMEFRONT portal provides a Location Based Services (LBS) solution which contains information on over 250 US installations and communities worldwide. It provides service personnel and their families with a one-stop on-line information resource detailing available services and facilities on and near their selected facilities. The MilitaryHOMEFRONT Portal is a public internet site available at: <http://www.militaryhomefront.dod.mil> or <http://www.militaryinstallations.dod.mil>.

Introduction:

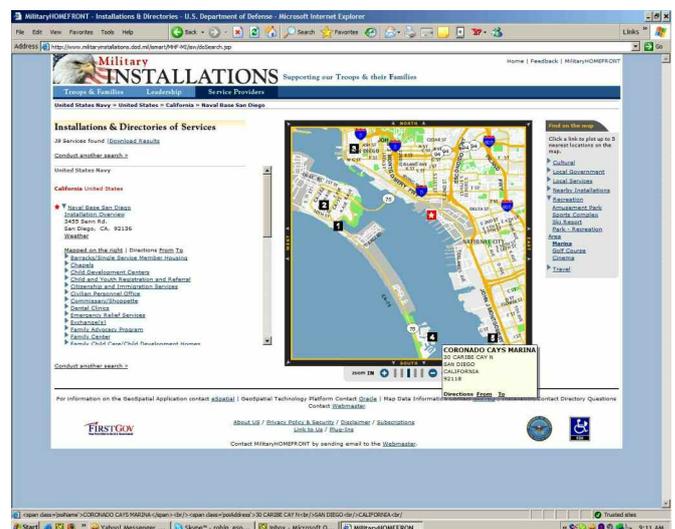
There has been a significant increase in demand for personalized mapping and location information. Organizations are now providing customized, web-based applications to allow their personnel access to location information relevant to their roles. The Office of the Under Secretary of Defense is no exception. Troops & their families are required to relocate during their career in the US Military. When considering relocation, they will want to know the answer to questions such as: *Where is the Installation located and how do I get there? Where can my kids go to school? How far to the nearest hospital? What is today's weather like? What will the weather be like in winter? Are there nearby hotels for my family and friends to stay at if they come visit?*

Background:

The office of the Under Secretary of Defense, Department of Defense Information Technology Center (DoDITC) is an existing Oracle customer. They chose eSpatial's iSMART® to use as the basis for the development of the LBS system. As iSMART is based on Oracle it was a simple matter to integrate the GeoSpatial capabilities available within iSMART with the existing DoDITC infrastructure which stores address and service information for all of the US Military bases worldwide.

The application was further extended by incorporating the worldwide NAVTEQ data set including the worldwide Base map and Points of Interest (POI) data. This data was loaded into Oracle10g database and enables searches for the POI's relative to the DoDITC domain specific base and services data. eSpatial provided expertise via their flagship product: iSMART, and associated technologies including (i) Oracle 10g database administration and design (ii) Geo-coding services, (iii), Oracle centric GIS/LBS user interface development and (iv) processing of the NAVTEQ Data.

Oracle's routing server is used to provide directions to and from the facilities provided and custom XML Web Services are used to provide additional features such as live local weather feeds.



Custom Web Application:

A custom web application was developed by eSpatial and DoDITC staff using iSMART's Development Environment to deliver the desired functionality and look and feel.

The LBS assists users to make more informed decisions regarding services available on and near military facilities installations worldwide. The user interface was modeled on the latest web based mapping technologies to provide an intuitive interface for non GIS users.

Service personnel and their families are able to locate installations by means of menus, or interactively using a map, to find details of services per installation and community. They can plan potential moves and trips by gaining information about the installations themselves and the civilian communities surrounding them. For example, a family relocating from Germany to a base in Oklahoma can search a specific installation to find on-base and off-base serviced including schools, ATM's, pharmacies, parks and other municipal services. Links are provided to additional information where available and directions to and from locations can be provided.

Key Benefits:

Benefits to the DoDITC:

The DoDITC now has a comprehensive and stable geospatial database platform that can be used build multiple map based applications that support their mission in “supporting the troops and their families”. By having the capability to add geospatial components to various operation applications DoDITC have moved to a realm of a truly spatially enabled enterprise that will benefit their entire community.

An additional benefit to the DoDITC is the fact that they have now established a single infrastructure upon which to develop additional services and applications at no additional data or software cost. Work has already started on other applications based on the same infrastructure.

Benefits to the Troops & their Families:

The Military Installations website is intended as a source of beneficial information for troops and their families. Information on services, base layout, access to services and their locations, proximity to schools, clinics and other points of interest allow families to become familiar with their new home. eSpatial and DoDITC worked closely to design and produce an intuitive and easy to use website. Due to eSpatial's implementation of industry standards for data management and display, a very complex set of information has been packaged quickly into a user-friendly application.

Key Features:

iSMART Mapping Functionality

- iSMART provided the core mapping functionality for the application. It was to be judged against the cartographic representation, look & feel, ease of use and speed of Google Maps. *It more than lived up to this comparison, and surpassed it in many areas!*
- eSpatial made use of “smart style” style sheets, which vary styles, symbols, or icons and sizes depending upon the preset zoom levels. The color selections are pleasing to the eye, and try to convey the element type easily to the user (e.g., park polygons in green, military base polygons in gray, etc.).
- Points of Interest (POI) are displayed in their actual location on the map based on coordinates rather than showing the POI locations along the street centre line. This provides the user the ability to discern which side of the street the POI resides.

Oracle 10g Geocoding & Routing

- iSMART is completely integrated with the Oracle Spatial platform. We have extensive Oracle expertise and are experts in processing NAVTEQ Data in an Oracle 10g environment.
- Oracle's Geocoding Engine is used to geocode the installation addresses to allow them to be represented in their correct location on the map.
- Oracle's Route Server is used to provide driving directions between installations or points of interest and user-entered addresses.

“We are excited about the capabilities this system provides us with the underlying LBS application can be reused and repurposed for several related applications”.

Lieutenant Colonel R. Lao, Program Manager

About Military HOMEFRONT:

MilitaryHOMEFRONT and MilitaryInstallations web portals are the central, trusted, and up-to-date source for Service members and their families to obtain information about all Department of Defense Quality of Life programs and services. The site is a service of the Office of the Under Secretary of Defense for Personnel and Readiness, Dr. David S. C. Chu. Dr. Chu is the principal staff assistant and advisor to the Secretary and Deputy Secretary of Defense for Total Force Management as it relates to National Guard and Reserve component affairs, health affairs, training, and personnel requirements and management including equal opportunity, morale, welfare, recreation, and quality of life matters.

About eSpatial

eSpatial, founded in Dublin, Ireland and with offices in the USA, is a world leader in enterprise strength spatial information management technology. Its advanced spatial environment, iSMART, provides a platform for highly scalable and secure spatially enabled applications in a standard enterprise IT environment with unprecedented ease of use, manageability and support for OGC Web Services. Its standards based Rapid Application Development environment and GeoPortal allows organizations to quickly and easily build new applications (or extend existing ones) to include spatial functionality. These applications provide spatial intelligence to anyone, anywhere, on any device, connected or disconnected. eSpatial's technology is used in every area of IT including Public Sector, Defense, Telecommunications and Utility organizations.