NSDI CAP GRANT 2009

Category 2: Behind the Portal - Use of GOS Map and Data Services

The Coeur d’Alene Tribe, North Carolina Department of Environment and Natural Resources, and US Environmental Protection Agency GOS Integration Project

Project Plan
V1.0
5/12/09
## Change History

<table>
<thead>
<tr>
<th>Version</th>
<th>Date</th>
<th>Description of Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>5-12-09</td>
<td>Initial draft by Brian Welde</td>
</tr>
<tr>
<td>1.1</td>
<td>&lt;date&gt;</td>
<td></td>
</tr>
</tbody>
</table>

www.innovateteam.com
I. Project Overview
II. Project Personnel and Roles
III. Project Phases Overview
IV. Project Management
V. Requirements Gathering
VI. Develop Design
VII. Implement and Test Software
VIII. Deploy, Release, and Provide Documentation
IX. Provide Web-ex Training
X. Project Deliverables
XI. Project Schedule
XII. Project Budget
• Purpose
  – More efficient and timelier access to information improves business
  – Superfund remediation is a geographic issue that affects multiple parties
    – Coeur d’Alene Tribe
    – North Carolina Department of Environment and Natural Resources (NCDENR)
    – Environmental Protection Agency (EPA)
  – Geospatial One Stop (GOS) can be improved through a suite of reusable and customizable search components that augment existing capabilities
Project Overview (Cont'd)
• Relevant geospatial data obtained from GOS for superfund remediation
  – Land use and management
  – LIDAR
  – Orthophotography
  – Agriculture
  – Facility data
  – Hydrography
  – Other critical information
• Goals
  – Offer users a customizable GOS experience
  – Develop a reusable suite of GOS search components
  – Interface with varying front end tools
  – Input parameters to include keywords, data content type, geographic extent
  – Allow users to specify how output is presented
  – Include means for automated metadata harvesting to improve GOS content
  – Complement or extend existing GOS functionality
Project Overview (cont’d)

• Outcomes
  – A reusable search API
  – Interface with the GOS CSW interface (and other catalogs if desired)
  – Support retrieval of both ISO 19115/19139 and FGDC CSDGM metadata records
  – Support for automated metadata harvesting to GOS
  – Allow users to specify input and output parameters
  – Allow visualization within front end client tools
  – Development of an automated GeoRSS feed that can support subscriptions
  – Documentation and training materials for using components
  – Modular and open-source software that can be modified and re-deployed by other NSDI users and providers
Project Personnel and Roles

• Jessica Zichichi – Project Manager
  – Schedule and Budgeting
  – Requirements Definition
  – Reporting
  Office: (774)206-5549
  jzichichi@innovateteam.com

• Ayhan Ergul – Lead Technical Architect
  – Web-services development
  – Design engineering
  Office: (703) 879-4800
  Cell: (781) 985-6920
  aergul@innovateteam.com

• John Sievel – Application Developer
  – API development
  – UI programming
  Office: (703) 879-4800
  jsievel@innovateteam.com
Project Personnel and Roles (cont’d)

• Frank Roberts – Project Lead
  – Couer d’Alene Tribe Project Management
  – Requirements Definition
  – Reporting

• Jason Trook – Subject Matter Expert
  – Deployment Support
  – Testing
  – Design engineering

PO Box 408, 850 A Street
Plummer ID 83851
http://gis.cdatribe-nsn.gov/
• Julia Harrel – Project Lead
  – NC DENR Project Management
  – Requirements Definition
  – Design Engineering
  – Reporting

• Shannon McDonald – Subject Matter Expert
  – Deployment Support
  – Testing

GIS Coordinator
Information Technology Services Division
NC DENR
julia.harrell@ncdenr.gov
Phone: (919)715-0363
• Lee Kyle – Project Lead
  – EPA Project Management
  – Requirements Definition
  – Design Engineering
  – Reporting

Information Services and Support Branch
Information Exchange and Services Division
Office of Information Collection
202-564-4622
Washington, DC
kyle.lee@epa.gov
http://www.epa.gov
Project Phases Overview

• Project management
• Requirements gathering
• Develop design
• Implement and test software
• Deploy, release, and provide documentation
• Provide web-ex training sessions
Project Phases Overview (cont’d)

- **Kickoff**
  - May 21, 2009

- **Requirements Gathering**
  - July 2, 2009
  - Output: Requirements Document

- **Develop Design**
  - August 7, 2009
  - Output: Design Document

- **Implement and Test Software**
  - January 22, 2010
  - Output: Search Software

- **Deploy, Release, and Provide Documentation**
  - March 10, 2010
  - Output: Documentation and User Guide

- **Provide Web-ex Training Sessions**

- **Closeout**
  - March 23, 2010
  - Output: Training Demonstration and Documentation

www.innovateteam.com
Project Management

• Reporting
  – Financial
  – Project summary
• Schedule adherence
• Budget adherence
• Risk management
• Project communications
Requirements Gathering

• Establish initial requirements matrix & use cases
• Send to team for review
• Hold project kick-off meeting and review initial requirements
• Revise requirements based on feedback
• Hold final review meeting with stakeholders and make any changes
• Deliver requirements document
Requirements Gathering (cont’d)

• Establish initial requirements matrix & use cases
  – EPA Manager Accesses Coeur d’Alene Tribe Data Through Preferred KML Client Tools
  – NCDENR Personnel are Informed of Updates to EPA Facility Data
  – Coeur d’Alene Tribe Manager Integrates GOS Search into existing web site or application
  – EPA Personnel Accesses Couer d’Alene Tribe services through desktop tools

GOS Search Requirements
Develop Design

- Develop draft design document
- Distribute to team for review
- Hold design review meeting
- Revise design based on feedback
- Hold final review with stakeholders and make final changes
- Deliver design document
Develop Design (cont’d)

- Design is based on EPA’s GeoFinder for the Environment (GFE)
  - Federated metadata search application
  - Originally developed in 2005 to introduce geospatial capabilities to the Central Data Exchange (CDX)
  - Evolution from z39.50 specific search behind CDX nodes to a more flexible architecture
  - CAP grant will further this evolution
Existing architecture

Metadata comprehension, aggregation, preservation

Search protocol layer

Search implementation layer

Searchable nodes

Dojo-based Rich UI

GFE XML webservice API

CSW

Z39.50

GeoNetwork CSW

ESRI CSW

Isite Z39.50

ESRI Z39.50

Ohio EPA

GOS

EPA GDG

MN, MI

OGRIP
Existing search interface

Step 1: Select Area of Interest (optional)
Select area of interest from list: 

Or, ctrl-click to draw a rectangle indicating your area of interest: Clear selection

Step 2: Select Providers
- Auto-select based on map extent
- Select by state/region
- Pick from list

Step 3: Enter Keyword(s) or a Phrase
- All keywords
- Any keyword
- Phrase

Help Desk: (888) 890-1996
EPA Home | Privacy and Security Notice | Contact Us

www.innovateteam.com
Existing search results interface

Resource Type:
Live Data and Maps

Linkage:
http://www.streamnet.org/online-data/di_cfm?ie=56&keyword=

Publication Date:
2004

Keywords:
bull, bull trout, salvelinus confluentus, presence, distribution, range, current, historic, 2004, circa 1800, Washington, Status Review, environment, inlandWaters

Abstract:

In 2004 USFWS requested that WDPM coordinate and conduct a reassessment of bull trout’s ESA status within Washington state. The Idaho Department of Fish and Game provided a database application, “BullMapper,” to utilize for the reassessment and assisted with the use of the application. A series of reviews were conducted for Washington state with biologists from state, federal, tribal, and educational institutions. The first step in the review was an attempt to define the historical range that was occupied by bull trout at the time of the first European exploration of the Pacific Northwest (circa 1800). This process was driven by the definition of naturally blocking fish passage barriers and extinction of biological knowledge and opinion of bull trout physiology and morphology. 7050 miles were defined as historically utilized by bull trout. It should be noted however, that no actual data are available from 1800 and that very few anecdotal accounts survive to the present time. It is probable that the true historic range extent is in fact significantly smaller than the defined 7050 miles. Movement of
• CAP grant funding supports the modification of GFE to include:
  – Keyhole markup API
  – GeoRSS API
  – HTML/DHTML API
  – Layering
  – Web map context download
  – Modular, open source software instead of an EPA centric product
Develop Design (cont’d)

Target architecture

- GeoRSS Clients
  - Dojo-based Rich UI
  - GeoRSS API
- KML Clients (GoogleEarth, MSVE, etc.)
  - KML API
- Websites, web applications (non-geo)
  - HTML API

GFE XML webservices API

- CSW
  - GeoNetwork CSW 2.0
  - ESRI CSW 2.0
- Z39.50
  - ESRI Z39.50
  - Isite Z39.50
- GFE
  - GFE
Implement and Test Software

- Develop initial prototype
  - Development server with periodic team reviews of new functions
- Demonstrate prototype
  - Consolidate comments from Tribe, NC DENR, EPA
- Revise and update based on feedback
- Test
  - Independent tests by Tribe, NC DENR, EPA
  - Consolidate test comments
- Finalize
Deploy, Release, and Provide Documentation

- **Deploy on servers**
  - Tribe, NC DENR, EPA

- **Test**
  - Tribe, NC DENR, EPA
  - Consolidate test results and apply fixes

- **Deliver software documentation and user guide**
Provide Web-ex Training Sessions

- Send announcement for training sessions
- Prepare for web-ex training sessions
- Post materials to websites
- Conduct first training Web-ex session
- Conduct second training Web-ex session
Project Deliverables

• Requirements document
• Software design document
• Documentation and user guide
• Training demonstration and documentation
• Interim status report
• Final status report
• Financial reports
• GOS search software
Project Schedule

• Milestones
  – Use cases identified (in progress)
  – Requirements defined, documented, delivered (active - 7/2/09)
  – Design specifications defined, documented, delivered (8/7/09)
  – Interim project status report (10/1/09)
  – Initial software prototype developed (10/23/09)
  – Software finalized (1/22/10)
  – Deploy software (2/12/10)
  – Deliver software documentation (3/10/10)
  – First training session (3/17/10)
  – Second training session (3/24/10)
  – Final project summary report (3/31/10)
# Project Budget

## Summary

<table>
<thead>
<tr>
<th>Task</th>
<th>Billable Hrs</th>
<th>Donated Hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Management</td>
<td>56</td>
<td>66</td>
</tr>
<tr>
<td>Requirements Gathering</td>
<td>31</td>
<td>58</td>
</tr>
<tr>
<td>Develop Design</td>
<td>48</td>
<td>108</td>
</tr>
<tr>
<td>Implement and Test Software</td>
<td>189</td>
<td>213</td>
</tr>
<tr>
<td>Deploy, Release, and Provide Documentation</td>
<td>48</td>
<td>97</td>
</tr>
<tr>
<td>Provide Web-ex Training Sessions</td>
<td>23</td>
<td>44.5</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>395</strong></td>
<td><strong>586.5</strong></td>
</tr>
</tbody>
</table>