Utah SHPO Information Tools

Using ArcGIS Server for Data Creation and Business Process Management

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What Does State History Do?

• We are the State Historic Preservation Office (SHPO).

• We maintain the statewide inventory of archaeological sites and investigations.

• We advise State and Federal Agencies on how to meet their stewardship responsibilities for cultural resources.

• Encourage public appreciation for the prehistory and history of Utah.
What Does AGRC Do?

• AGRC is The Automated Geographic Reference Center
• Facilitate and promote the use of GIS in Utah using Enterprise solutions where possible
• House the State Geographic Information Database (SGID)
• Production work, Projects, Data Development
Enterprise GIS In Utah

State History

AGRC SGID

Local Governments

Federal Government
The Story Behind The Scenery

• AGRC and State History teamed up in the early 90’s.

• Evolution of data storage and format: Coverages to Librarian to Spatial Database Engine (SDE)/SQL Server.

• Internal upload of data through a multi-user versioned geodatabase.

• A Map Service (Internet Map Service IMS) also created for those unable to take advantage of SDE.
GIS Then and Now

• In the past, spatial data could only be created in a desktop or client/server environment.

• An archaeological project will usually only involve 1 or 2 features. Passing files back and forth on a statewide scale is not practical.

• Now, for the first time, we have a centralized application for direct data entry.
What is State History’s need?

*Vision*: To facilitate and enhance common interactions between Utah SHPO and its customers

1) Data In
2) Data Out
3) Streamline the Workflow
The OLD Way

• DATA IN: Clients mailed hard copy records and maps to be digitized and encoded by State History staff.

• DATA OUT: Customers do background research by traveling to State History offices and manually searching the files and paper maps.

• WORKFLOW:
  – Inadequate linkages between archaeological projects and compliance cases.
  – Paper documents are sent through ‘snail mail’ to be reviewed by multiple agencies.
The NEW Way!

• DATA IN: Clients will create new records through an ArcGIS Server application.

• DATA OUT: Customers do background research from their own desks using search features in the same ArcGIS Server application.

• WORKFLOW:
  – A normalized relational database schema now maintains the relationship between a compliance case and the projects that are done for that case.
  – Paper will still drive the process for now. You can’t change too many things at once. Permissions will change as a record moves through the review process.
The New and Improved Workflow

The reviewing agencies forward the paper documents to SHPO for review. SHPO then accepts or rejects the record with comments.

User creates spatial and tabular data. Once submitted, the user can view, but no longer edit that record.

The SHPO data manager (me) reviews the data for quality control. Upon acceptance, the record becomes visible to the entire community.

When an agency receives the documents created by the user (snail mail), the agency logs in, reviews the record, then accepts or rejects it with comments.
ESRI to the Rescue!

• **Needs Assessment**
  – Meeting with users to create “wish list”
  – ESRI familiarized themselves with State History’s business processes.

• Technology decisions
  – What software is most appropriate for the task?
  – Programming language?
  – System architecture (assess adequacy of current architecture)

• Database overhaul
  – Redesign and normalize
  – Create persistent relationships
  – Data cleansing, domains to prevent future errors

• Application development
  – Prototype to capture functionality
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Prototype in VB.NET
Security
User Management, Roles
User Management, Organization
User Management, Admin.
DATA IN: Investigation Summary
DATA OUT: Literature Search Tool
DATA OUT: Project Search Tool
The Road Ahead

• This is just the first step . . .
• Continue to enhance software based on user feedback on desired functionality.
• Form a user’s group with an annual meeting, online forum, email contact list, etc.
• Additional modules to serve other programs within State History.
Contacts

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