

Utah SHPO Information Tools



Using ArcGIS Server
for Data Creation and
Business Process Management

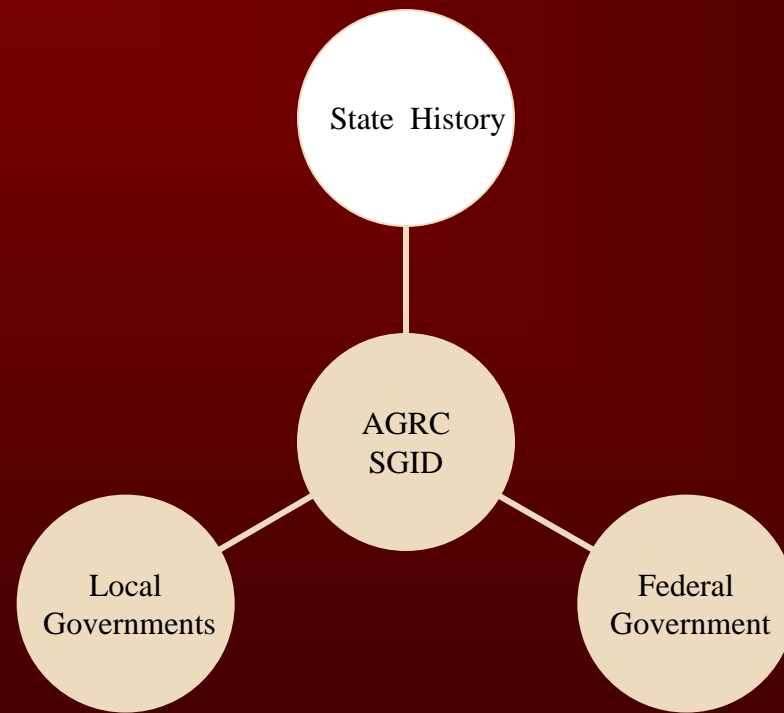
What Does State History Do?

- 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



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



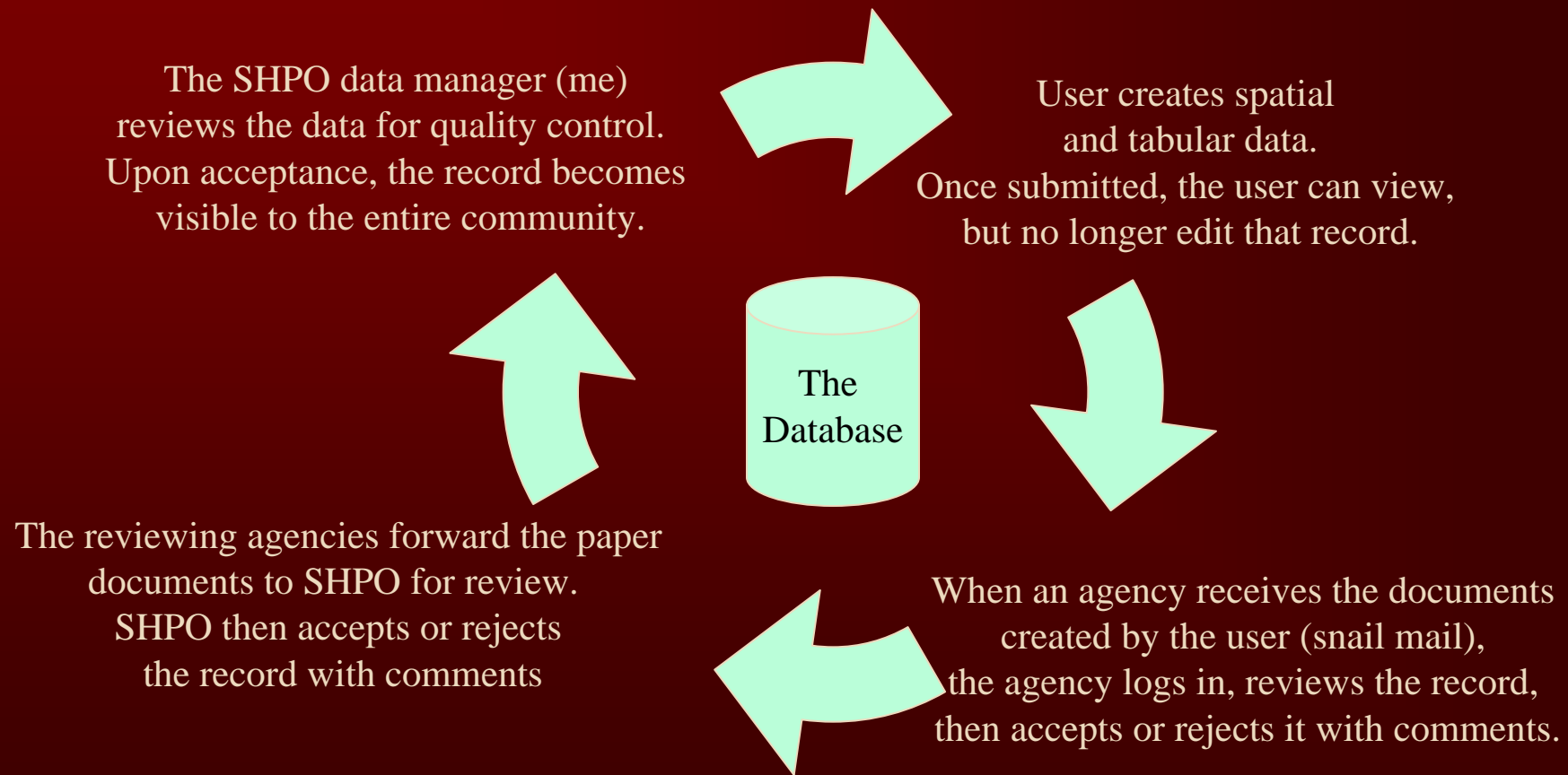
The OLD Way

- **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



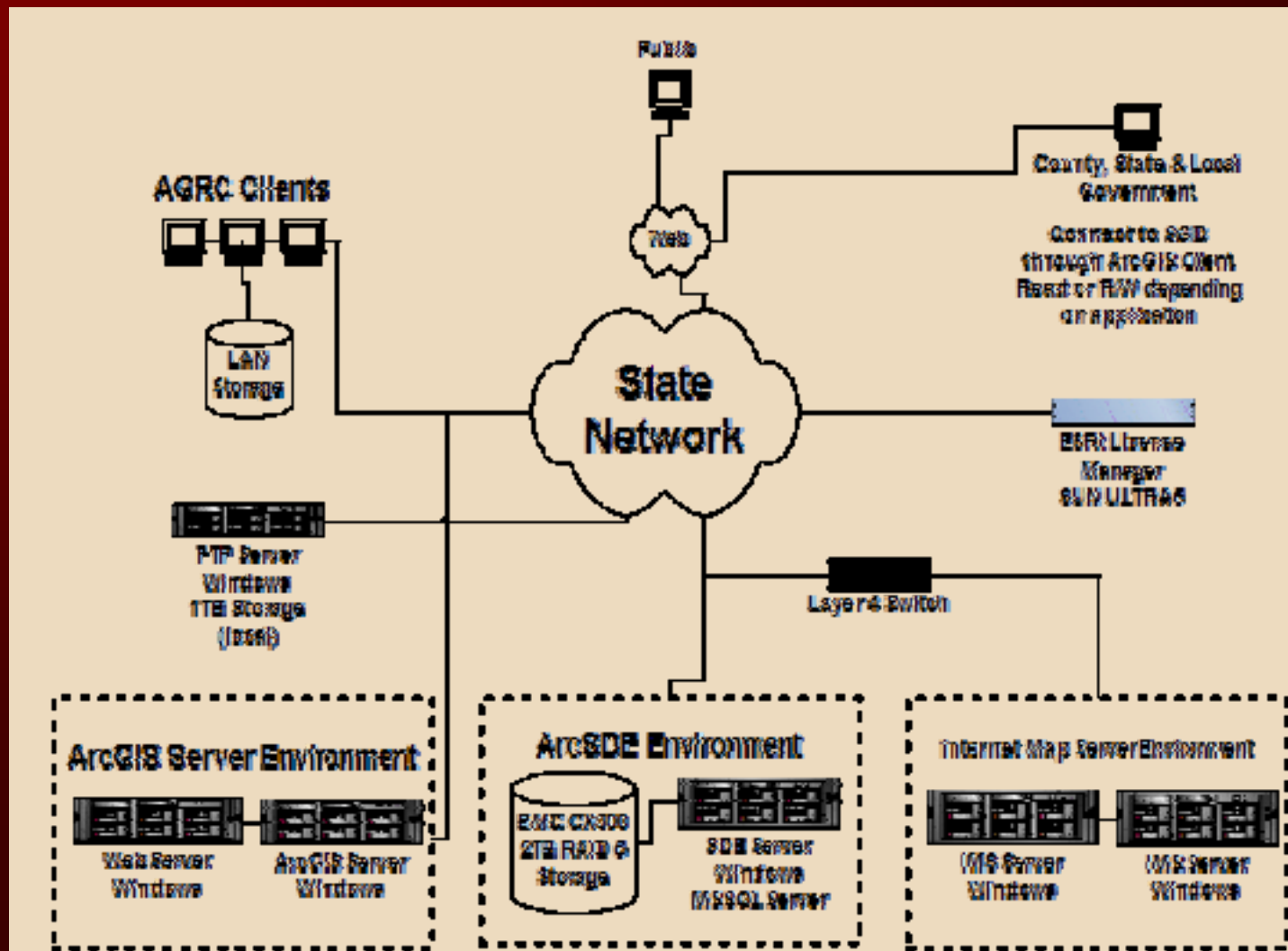
ESRI to the Rescue!

- ***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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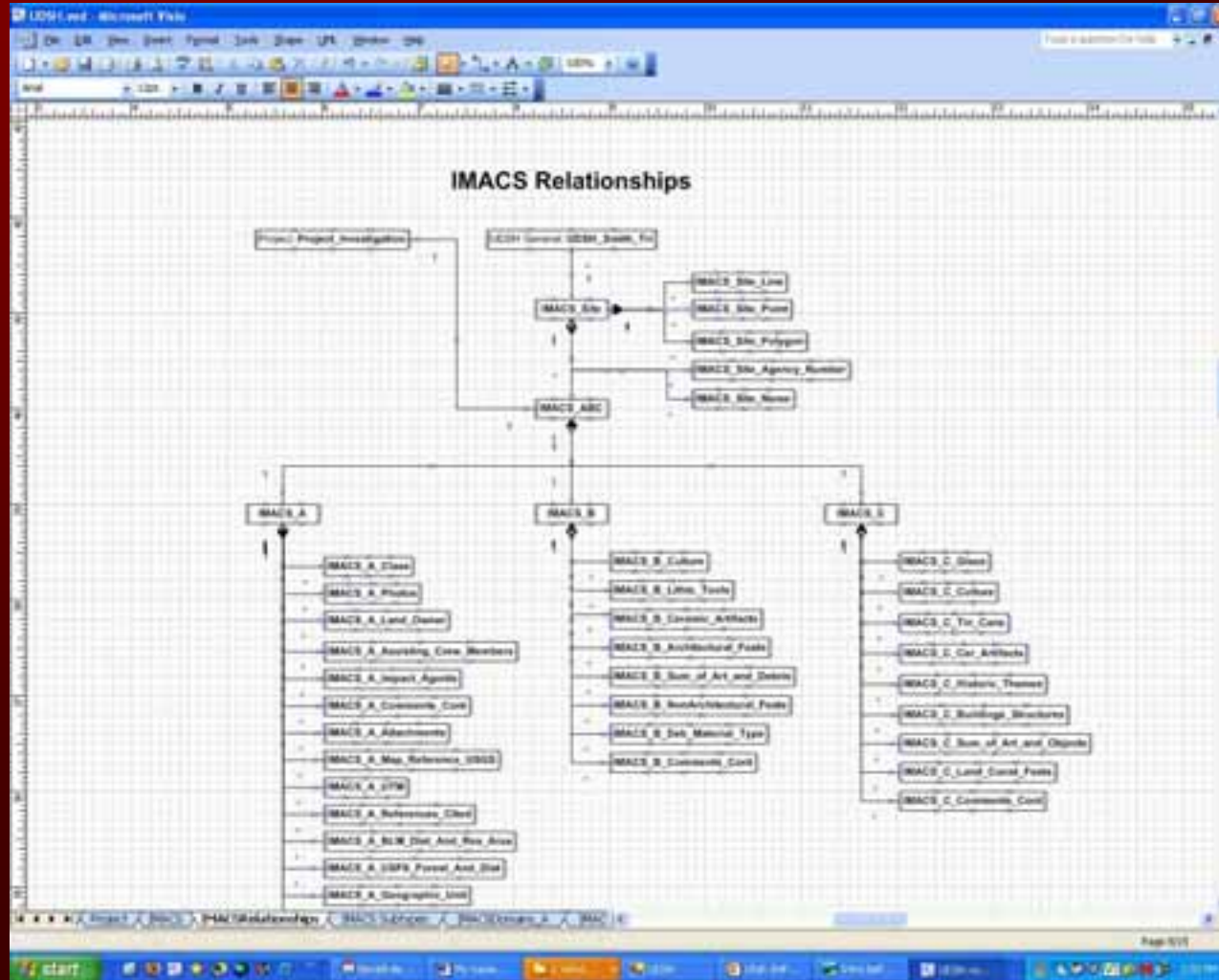
Between the Couch Cushions



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Database Design



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- **Application development**
 - Prototype to capture functionality

Prototype in VB.NET

The screenshot displays the 'UDSH Projects' application window with a blue title bar and standard Windows window controls. The main content area is a form with several sections and fields:

- Navigation Tabs:** Project Summary (selected), Sites Reported, Compliance, Project Map, Project Reports.
- State Project Number:** U-05-NA-1234 b. f. s. *Must be editing else it is grayed out*
- Project Summary Section:**
 - * Survey Org: *Based on 'Works_in_Utah' set of Survey Organizations NOT the full set of Organizations*
 - * Project Name: Kristen Project
 - * Principal Investigator: Kristen Jensen
 - * Field Supervisor(s): Whoever
 - * Record Search Date(s): Monday, April 03, 2006
 - * Record search completed at what office?
Location, Date: Vernal Field Office, 2/6/06
 - Other project ID's: MDAC88
 - * Activities:
 - Survey
 - Activity Survey:
 - Survey Method:
 - Survey Intensive Acreage:
 - Survey Recon Acreage:*Activity Survey is only enabled when 'Survey' is selected*
 - * Legal Location: PLSM Manager
 - * County(s): Box Elder, San Juan
 - USGS Map Reference: *This will be a spatial query - 'Quad Index'*
- Footer:** *When creating a new project the State Project Number will NOT be assigned until all of the required fields have been entered*

Security

The screenshot shows a web browser window displaying the Utah Division of State History Historical Data Management System. The browser's address bar shows the URL <http://localhost:UCDH/Default.aspx>. The page title is "Utah Division of State History-Historical Data Management System".

The page layout includes a navigation bar with a "Home" button. The main content area is divided into two columns. The left column contains login options: "1.) Account Login" with fields for "User Name:" (containing "admin") and "Password:"; "2.) Organization Login" with a dropdown menu for "Your Organization:" (set to "Cysco") and a "SGD-ID" link; and "Reset Login". Below these are "Quick Search" links for "DRACS", "Utah ADHC", "Utah State History", "Contact Us", and "ESSE".

The right column features the "Historical Data Management System" title and an "Introduction" section. The introduction text states: "The Utah Division of State History-Historical Data Management System (UCDH-HDMS) is a series of web-based data entry and storage tools that support the development and maintenance of related spatial and attribute information." Below this is a "Primary features of the UCDH-HDMS" section with a bulleted list: DRACS, Literature Search, Project Investigation, Historic Preservation, User Management System, and Spatial Information Management (GIS). A logo of a compass rose is positioned below the list. At the bottom of the right column, a disclaimer reads: "The Utah Department of State History makes no warranty or guarantee as to the content, accuracy, timeliness, or completeness of any of the data provided, and assumes no legal responsibility for the information contained on this map or data reports. Information sources should be consulted for verification of the information contained on this map. Please notify the GIS staff of any discrepancies."

User Management, Roles

Internet Explorer
File Edit View Favorites Tools Help
Address: http://localhost:1024/Staff/UpdateUser.aspx?user_id=2678206-F8E7-469F-83EA-A950E940E117

Welcome Alex and Cyscol | UDSH Home | UDSH Documentation | Logout

Utah Division of State History-Historical Data Management System

Home Literature Search Project Investigation IMACS Historic Preservation **User Management** Organization Management

Edit Existing User

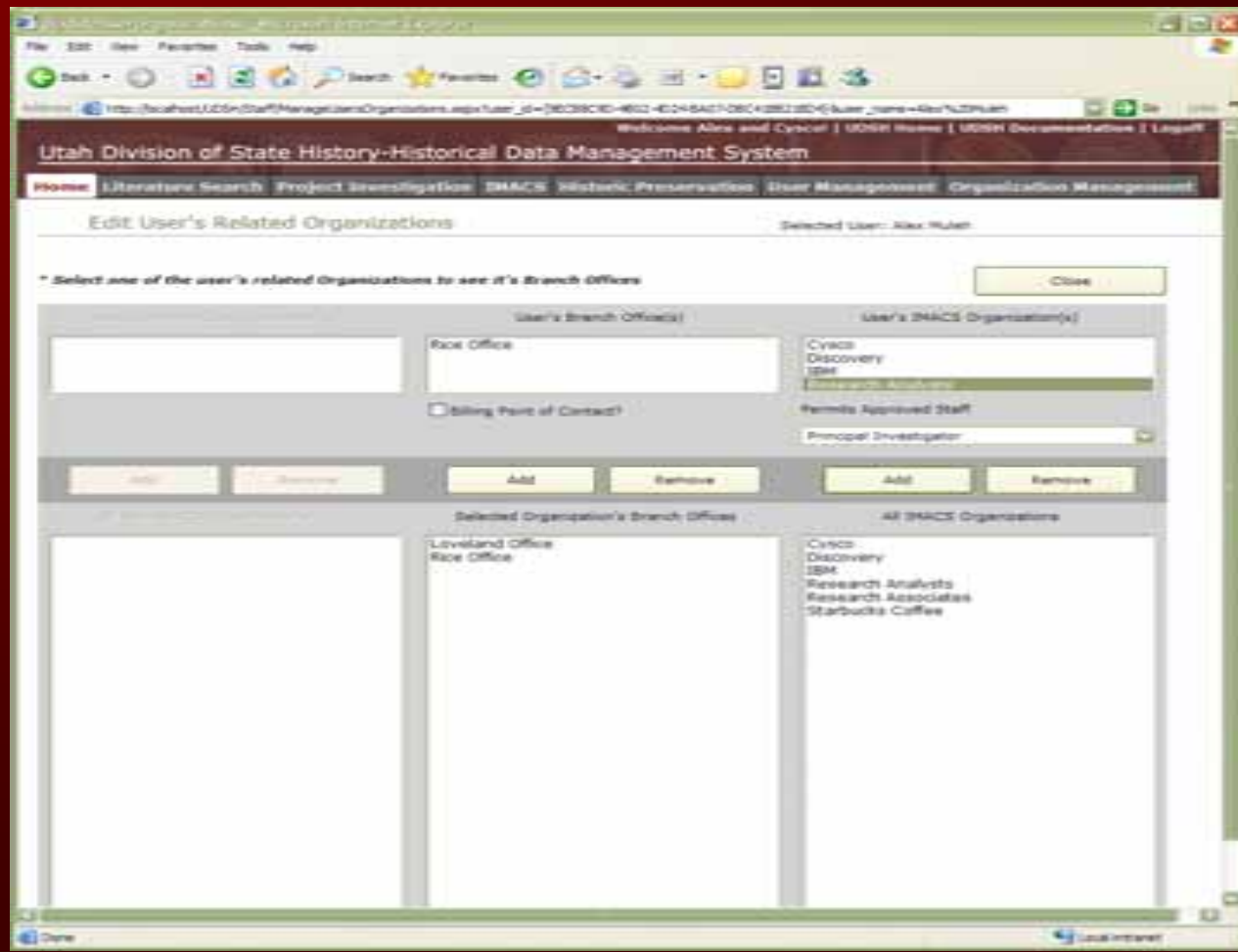
Prefix:	<input type="text" value="Mrs."/>	Office Phone:	<input type="text" value="(810)345-0987"/>	ext:	<input type="text" value="324"/>
First Name:	<input type="text" value="Jessica"/>	Mobile Phone:	<input type="text" value="(801)987-4325"/>		
Last Name:	<input type="text" value="Healy"/>	Home Phone:	<input type="text"/>		
Suffix:	<input type="text"/>	Email:	<input type="text" value="jhealy@hotmail.com"/>		
Job Title:	<input type="text" value="System Administrator"/>	Username:	<input type="text" value="Jessica"/>		
Education:	<input type="text" value="MS"/> <input checked="" type="checkbox"/>	Password:	<input type="text"/>		
RPA:	<input type="text" value="False"/> <input checked="" type="checkbox"/>	Confirm Password:	<input type="text"/>		

Role(s):

<input checked="" type="checkbox"/> Data Creator	<input checked="" type="checkbox"/> SHPO Technical Editor
<input type="checkbox"/> Agency Approver	<input checked="" type="checkbox"/> SHPO Preservation Staff
<input checked="" type="checkbox"/> SHPO Archaeology Reviewer	<input type="checkbox"/> Application Administrator
<input type="checkbox"/> SHPO Technical Reviewer	

Local intranet

User Management, Organization



User Management, Admin.

Utah Division of State History-Historical Data Management System

Home Literature Search Project Investigation IMACS Historic Preservation **User Management** Organization Management

User Management

Create New User

Search for a single user >>

First Name:

Last Name:

email:

Search

Complete Users Database

First Name	Last Name	Job Title	Office Phone	Office ext.	Mobile Phone	Home Phone	Email	ORGS	EDIT	DELETE
Alex	Malet	GG Consultant	(801)448-7779	8257	(303)628-9214		alexmalet@gmail.com	Edit	Edit	Delete
Rob	Thomas	Programmer						Edit	Edit	Delete
Jessica	Healy	System Administrator	(816)345-0967	324	(501)867-4325		healy@hotmail.com	Edit	Edit	Delete
Davey	Thomas	Soccer Player						Edit	Edit	Delete

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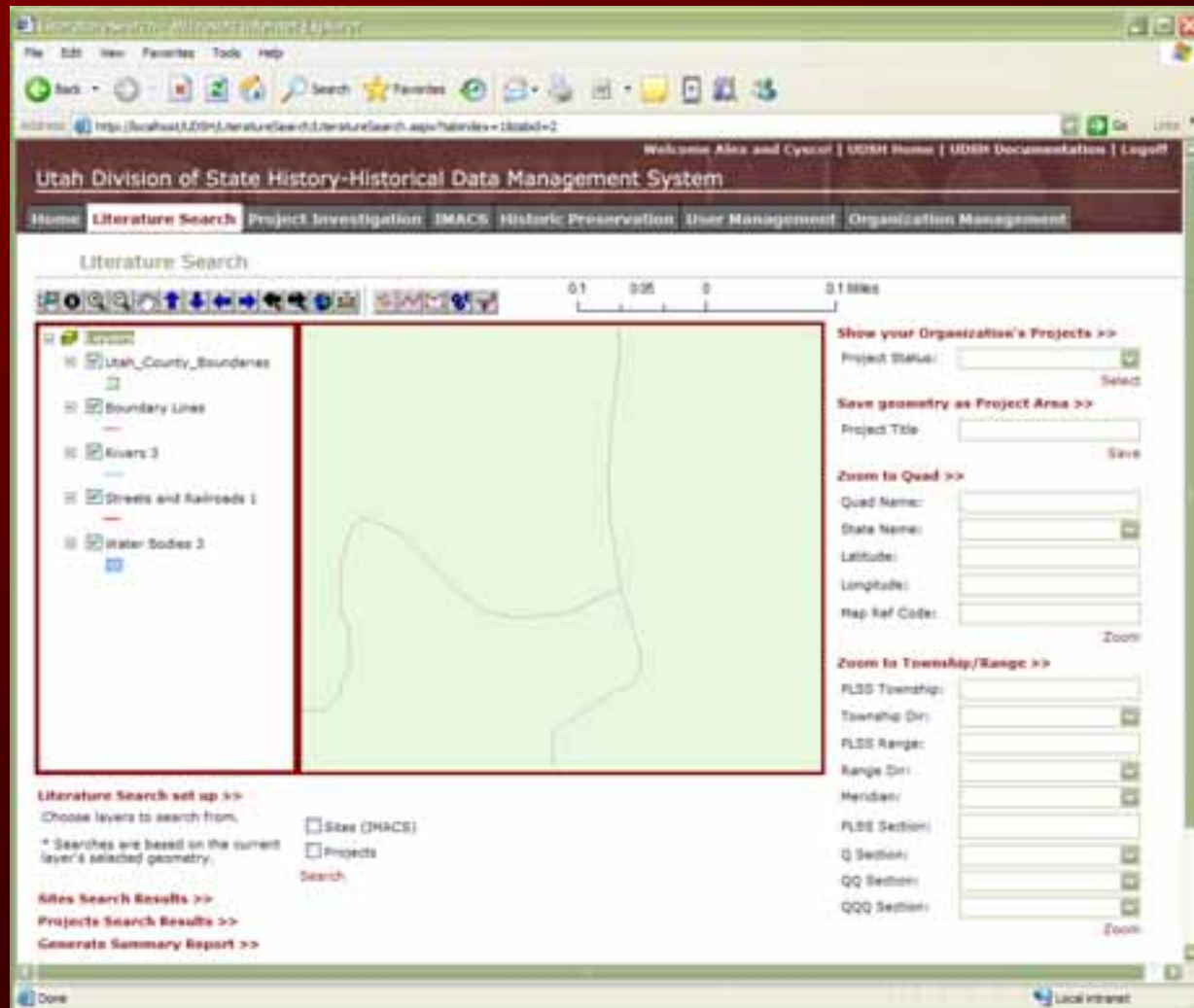
DATA IN: Investigation Summary

The screenshot shows a web browser window displaying the 'Project Summary' page of the Utah Division of State History Historical Data Management System. The browser's address bar shows the URL 'http://localhost:1234/Projects/ProjectSummary.aspx'. The page header includes the system name and navigation links for Home, Literature Search, Project Investigation, IMACS, Historic Preservation, User Management, and Organization Management. The main content area is titled 'Project Summary' and contains several form fields and sections:

- Project Summary** (Section Header)
- State Project Number:** A text input field.
- Project Name:** A text input field containing 'Project One'.
- Principal Investigator:** A text input field containing 'JLF Reynolds'.
- Field Supervisor(s):** A text input field with a sub-section for adding new supervisors, including a text input for the name and a 'Cancel' button.
- Record Search Date(s):** A text input field with a calendar icon and a calendar view for April 2006.
- Record Search completed at which office?** A text input field with a sub-section for adding new location/date records, including a text input for the location/date and a 'Calendar' button.
- Other Project ID's:** A text input field with a sub-section for adding new project IDs, including a text input for the ID.

Each of the sub-sections for adding records includes '+ Add +', '+ Edit +', and '+ Delete +' buttons.

DATA OUT: Literature Search Tool



DATA OUT: Project Search Tool

The screenshot shows a web browser window displaying the 'Utah Division of State History-Historical Data Management System'. The page title is 'Utah Division of State History-Historical Data Management System'. The navigation menu includes: Home, Literature Search, Project Investigation (selected), IMACS, Historic Preservation, User Management, and Organization Management. The main content area is titled 'UDSH Project Search' and contains the following search options:

Which type of record(s) would you like to search for?

- All records that meet the search criteria
- Pending projects
- Archived Projects

Search by state project number:

U-

Year Org-Code

Search by Project title:

Search by county:

Search Projects Or **Create New Project**

Search Results (*nothing will appear below until a search is carried out.)

The browser window shows the URL: <http://localnet.UDSH/Projects/ProjectSearch.aspx?tabid=3>. The system is running on a local intranet.

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

- Utah State History – Kristen Jensen
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- ESRI, Broomfield (Denver) – Alex Muleh
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- Dopey, Sneezy, Sleepy, Grumpy, Bashful,
Happy and Doc. FarfarAway@dwarfs.com
- AGRC – Matt Peters mpeters@utah.gov