IOGENE PROJECT
Interface Optimization for Genealogists

DENTON COUNTY GENEALOGICAL SOCIETY:
INITIAL USABILITY TEST RESULTS

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Introduction

IOGENE Project
The University of North Texas Libraries received a National Leadership Grant from the Institute of Museum and Library Services in December 2007 for a two-year project to identify the user interface requirements of genealogists interacting with the Libraries' Portal to Texas History. The Portal provides users with a digital gateway to collections in Texas libraries, museums, archives, and historical societies, as well as to private collections. It contains primary source materials, including maps, books, manuscripts, diaries, photographs, and letters.

The IOGENE project involves genealogists in the design process beginning with the initial assessment of their requirements and continuing through usability testing of the redesigned Portal interface. The results of this study will provide the library community with information about the needs and interface requirements of a little-studied and ever-growing group of lifelong learners who comprise a significant proportion of digital library users.

During March and April of 2008, members of the Denton County Genealogical Society participated in usability testing of the existing interface to the Portal. The purpose of the testing was to identify ways in which the Portal to Texas History could be improved to better address genealogists' needs. This is a report of the findings from those tests. These findings in conjunction with the findings from focus group discussions held in the spring of 2008 will inform the initial redesign of the Portal's interface.

Methodology

Participants
Five volunteers were recruited by the president of the Denton Genealogical Society. The participants were females between 40 and 70 years of age. On average they had been doing genealogical research for 14 years (Table 1). One person was a member of the Association of Professional Genealogists (APG) and two were members of the National Genealogical Society (NGS).

<table>
<thead>
<tr>
<th>Years of Experience</th>
<th>#</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 or less</td>
<td>1</td>
<td>20.0%</td>
</tr>
<tr>
<td>10-19</td>
<td>3</td>
<td>60.0%</td>
</tr>
<tr>
<td>20-29</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>30-39</td>
<td>1</td>
<td>20.0%</td>
</tr>
</tbody>
</table>

Table 1. Years of Experience (N=5)

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1 The project was originally titled Optimizing the User Experience in a Rapid Development Framework. Subsequently, a more descriptive project name was created: IOGENE - Interface Optimization for Genealogists.
http://iogene.unt.edu
2 Portal to Texas History: http://texashistory.unt.edu
**Test Script**

Appendix A contains the test script. The script includes four scenarios reflecting research goals that genealogists commonly address (Table 2).

<table>
<thead>
<tr>
<th>Task</th>
<th>Research Goal</th>
<th>Scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Question to answer</td>
<td>Did your ancestor Darius Collee (or possibly Colley) live or work in Fort Worth, Texas, around 1900?</td>
</tr>
<tr>
<td>2.</td>
<td>Hypothesis to test</td>
<td>Your research suggests that your ancestor, H. M. McDaniel, owned land near Lake Dallas, Denton County, Texas around 1940.</td>
</tr>
<tr>
<td>3.</td>
<td>Statement to prove</td>
<td>Your grandmother often stated that even though her sister, Minnie Shahan, (born 1891) is buried in Elmhurst Cemetery in Oklahoma, she actually died in Texas.</td>
</tr>
<tr>
<td>4.</td>
<td>Topic to investigate</td>
<td>You are going to give a presentation about Norwegian immigration to Texas. You have just discovered the Portal to Texas History and would like to know if it contains source materials that would help with your research.</td>
</tr>
</tbody>
</table>

Table 2. Research Goals and Scenarios

The four tasks discussed in this report correspond to the research goals and scenarios. For the first three goals, participants were asked to do the six activities below. For the fourth scenario, users were asked to do only 1, 2, 3, and 5.

1. Locate materials.
2. Examine the list of results.
3. Select item(s) that might address the research goal.
4. Evaluate the quality of the item(s).
5. Locate citation(s) information.
6. State how you would share items you find with others.

**Test Protocol**

At the start of each one-hour session, participants were informed of the purpose of the testing and signed a consent agreement. In all cases, participants used the Researchers’ Portal interface to the Portal to Texas History. They were advised that there were no “right” or “wrong” actions they could take as they interacted with the Portal.

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Figure 1 illustrates the high-level information seeking process users employ to satisfy their research goals. In practice, prior to ultimately selecting objects that satisfy research goals, users typically conduct multiple searches, evaluate multiple search result sets, and investigate many individual objects.

![Diagram of Information Seeking Process]

Figure 1. Information Seeking Process

A talk-aloud protocol was used in each test session. Participants read aloud a scenario and its associated tasks prior to searching or browsing the Portal. They were encouraged to state their thought processes as they made decisions and input search arguments. When they were satisfied with their actions or results in regard to a scenario, they moved on to the next scenario and repeated the same process. After completing the structured scenario tasks, some participants elected to conduct brief searches of interest to them. At the close of each test session, participants completed a questionnaire (Appendix B) that identified demographic characteristics and captured their ratings of possible new features for the redesigned interface to the Portal to Texas History. Lastly, participants received a thank-you gift.

**Data Collection & Analysis**

Audio, video, and screen recordings of each session were captured using Morae Recorder software from TechSmith. Each file was analyzed using Morae Manager software to identify the duration of each task, key observations and problems, tester prompts, and illustrative video clips. Task completion was rated on a 3-point scale: 0=completed with ease, 1=completed with difficulty, or 2=not completed. Morae Manager was also used to generate graphs depicting the Portal’s effectiveness and efficiency for the test scenarios. When appropriate, observations that reflected problems were assigned an intensity value: 2=minor, 1=major, 0=severe.

The questionnaire was analyzed using Excel software from Microsoft to calculate frequencies and percentages for each question. The results of the feature ranking (Appendix B, question 6) were tabulated and the features were ranked by the percentage of users indicating “yes” for each feature. To evaluate the similarities and differences, usability test participant responses (N=5) were combined with participant responses (N=19) from the three focus group discussions conducted with genealogists in the spring of 2008. Feature rankings from the focus groups were previously determined. The combined responses (N=24) were ranked by the percentage of users indicating “yes” for each feature.
Overview

Findings

Effectiveness

Overall, the Portal was only somewhat effective in meeting the research goals tested in this study. Two participants did successfully accomplish all four of the tasks associated with the research goals, although neither completed all four with ease. The other three participants respectively accomplished 1, 2, and 3 of the tasks. (See Figure 2.)

Familiarity with the Portal did not seem to relate to effectiveness. Three participants had never used the Portal prior to the test session and yet one met all four research goals (three with difficulty), one met three research goals (two with ease), while one met only one research goal (with difficulty). Of the two participants who were somewhat familiar with the Portal, one met all four research goals (two with difficulty), while the other met only two of the research goals (both with ease).

![Figure 2. Task Completion by Participant](image)

The common search arguments used by genealogists are name (especially surname), location (especially county), and date (especially date range). The participants in these tests were consistent with this practice. Likewise, genealogists most commonly utilize certain types of records in their research. Considering the tasks in this study in light of these characteristics of genealogists suggests some insight into the effectiveness of the Portal for genealogical research.

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4 Common examples include: Census records; birth, marriage, death, and divorce records; baptismal, and confirmation records; land transactions; county histories; military and nationalization records; probate records and wills; birth and marriage announcements; obituaries; passenger lists; and personal stories.
Task 1. The most effective search argument was surname spelled ‘Colley’. Eventually, all but one of the participants met this goal in that manner.
   - Neither basic nor advanced searches using both spellings provided for the surname (‘collee’ and ‘colley’) were successful
   - The forename, as spelled in the scenario, never produced results, whether used solely or in combination with other search arguments
   - The character recognition software returned results for ‘college’ and ‘coffee’ for the ‘collee’ surname, which participants found puzzling and confusing
   - A few indicated they would use a census as a first choice of record

Task 2. The most effective search arguments were ‘Lake Dallas Denton County’, although ‘Lake Dallas’ was reasonably effective.
   - Most were looking for land records for this task not the maps that offered supporting evidence
   - Several searches included terms reflecting this: ‘land’ or ‘county records’ or ‘land records’; none of these were successful in resolving the task
   - Once discovered, problems with enlarging the maps to read the text were encountered

Task 3. The simplest search arguments for this task were ‘Shahan Elmhurst’. Adding the forename ‘Minnie’, and/or ‘cemetery’, and/or the state name ‘Oklahoma’, were no more or less effective. This task did not include name spelling variants. It was the only task that all participants resolved successfully.
   - Both surname, full name, and place name searches produced a manageable number of search results
   - The title of the object containing the supporting evidence was quite descriptive: “Death Records, Hutchinson County, Texas: Persons who died in Hutchinson County but buried elsewhere, 1903-1987”

Task 4. The most effective search arguments were ‘Norwegian immigration’. No names or dates were given.
   - Participants readily searched using the terms: “Norwegian immigration”
   - The descriptive text for the images listed at the top of the search results set included the search terms
   - Selecting the first issue of STIRPES\(^5\) to appear on the list led fairly directly to an article directly related to the topic

**Efficiency**

For the four tasks in this study, the Portal’s efficiency, as measured by the average time participants engaged in each task, is clearly related to its effectiveness scores. The more difficulty participants encountered in effectively satisfying a research goal, the more time they spent on the task. Figure 3 illustrates that participants spent the most time on the second task, which also was the task they were least successful at resolving. Participants spent the second most time on the first task which is consistent with the difficulty they had resolving it. Likewise, the time spent on the third and fourth tasks reflects the relative ease participants had in resolving these tasks.

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\(^5\) STIRPES is the genealogical quarterly of the Texas State Genealogical Society.
**Recommendations**

**Portal Contents**
- Make the Portal’s contents more visible on home page and other pages (as appropriate), for example, by illustrating the types of information objects in the Portal.
- Identify the types of records of use to genealogists that are and, perhaps that are not, included in the Portal
- Include in the main navigation scheme a link to a description of the Portal’s contents

**Digital Projects**
- Linking to the Digital Projects Unit from ‘Digital Projects’ does not seem to be a navigational priority for users, who expect that link to provide information about the contents of the Portal. Consider deleting this link from the main navigational options.

**Search**
- Provide ability to readily do subsequent searches without using browser’s back button
- Provide ability to search within a county from a map of Texas counties; however, users need to readily identify the county(s) of interest

**Advanced Search**
- Advanced search feature may need to be more visible on the screen.

**Name Searches**
- Name searches are a first priority for genealogists.
o Provide help regarding how to format successful name searches
o Include names in the metadata as a priority

Metadata
- Consider making date information, as related to object content, more visible in search results and record.
- Object descriptions should state that the object includes names of people
- Include name and location information whenever possible in object metadata
- Provide descriptions of what types of objects are included in each era and what criteria are used in placing objects in an era
- Identify common types of records used by genealogists in the type element in metadata records
- Include the article titles from STIRPES volumes/issues in the descriptive metadata

Search Results
- Highlight search terms in search results and metadata records.
- Allow searching from within search results to narrow them
- Identify the index and contents pages, possibly in three places: search results, object pages, object description

Hits
- Users need an easy way to identify their hits and an easier way to search within books for their hits. How to get to the location of search terms needs to be more visible to users. If user selects the thumbnail of an object, there should be some way to get to the hits; at a minimum some way to get to an index.
  o Include the ‘hits in text’ on every page of an object and on the descriptive record.
  o Include search terms on every page of an object
  o Make searching within objects more visible

Object Navigation
- Provide an obvious way to enlarge images and to zoom in on all objects, for example, maps and year book pages
- Identify the Index when present in objects

Citation Information
- URL, location of source, institution, collection, who created/compiled the source object, title

Obtain Objects
- Provide ability to readily print objects
- Ability to download images and citation information

Texas County Map
- Provide an obvious method for users to discover county locations on the Texas map
- Make the county names obvious on the Texas map

Help
- Provide some help or general information regarding how objects in search results are selected; provide examples that are not readily obvious to users
- Provide some help information for genealogists regarding how names are and are not included in metadata and how they are and are not available for searches
- Alert users that the OCR search feature sometimes produces some unexpected search results; provide some examples
- Provide help for formatting name searches

**Ranking of New Features**

Participants were asked to indicate, by marking “yes”, “no”, or “don’t know” on a questionnaire, if they would like the Portal to Texas History to allow users to have each of the features listed in Table 3. The results were tabulated and the features were ranked by the percentage of users indicating “yes” for each feature. Table 3 lists the features in rank order, both for participants’ responses from the usability test sessions (N=5) and for participants in the three focus group discussions conducted with genealogists in the Spring of 2008 (N=19).

In regard to the top features they would like the Portal to offer, the participants in the usability tests generally agreed with the interests of the focus group participants. The top two features of interest to all participants are saving items and saving search results. These are followed by adding items to personal favorites and accessing the personal search history for an active session.

Compared to the focus group participants, the participants in the usability tests were somewhat more interested in building lists of objects and somewhat less interested in commenting on items and annotating images. The features of less interest to all participants were receiving RSS feeds of search results, rating the historical significance of objects, and commenting on other users’ comments.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Usability Test Participants N=5</th>
<th>Focus Group Participants N=19</th>
<th>All Participants N=24</th>
</tr>
</thead>
<tbody>
<tr>
<td>Save items (images, maps, letters, etc.)</td>
<td>1 (100%)</td>
<td>1 (100%)</td>
<td>1 (100%)</td>
</tr>
<tr>
<td>Save search results</td>
<td>1 (100%)</td>
<td>2 (94%)</td>
<td>2 (96%)</td>
</tr>
<tr>
<td>Add items to personal “favorites”</td>
<td>1 (100%)</td>
<td>4 (68%)</td>
<td>4 (75%)</td>
</tr>
<tr>
<td>Access personal search history for an active session</td>
<td>4 (80%)</td>
<td>3 (84%)</td>
<td>3 (83%)</td>
</tr>
<tr>
<td>Build and maintain lists of objects</td>
<td>4 (80%)</td>
<td>6 (53%)</td>
<td>6 (58%)</td>
</tr>
<tr>
<td>Comment on items</td>
<td>6 (40%)</td>
<td>4 (68%)</td>
<td>5 (63%)</td>
</tr>
<tr>
<td>Receive RSS feeds of search results</td>
<td>6 (40%)</td>
<td>9 (42%)</td>
<td>7 (42%)</td>
</tr>
<tr>
<td>Rate items on a historically significant scale</td>
<td>6 (40%)</td>
<td>10 (29%)</td>
<td>10 (32%)</td>
</tr>
<tr>
<td>Annotate images (like Flickr)</td>
<td>9 (20%)</td>
<td>7 (50%)</td>
<td>7 (42%)</td>
</tr>
<tr>
<td>Comment on comments written by others</td>
<td>9 (20%)</td>
<td>8 (44%)</td>
<td>9 (39%)</td>
</tr>
</tbody>
</table>

*a Some features had tied ranks.

Table 3. Participants’ Ranking of New Features
Detailed Findings

Researchers’ Portal Screen

Two participants who had never used the Portal were asked to explore the Researchers’ Portal screen and share their expectations of what would result from selecting various links and options.

![Researchers’ Portal Screen](image)

Figure 4. Portal to Texas History: Researchers’ Portal Screen

Observations

- Both stated that even as new users they would immediately begin to search by surname or by location (county or region).
- One might select ‘About the Portal’ to discover what resources were contained in the Portal. One thought either ‘About the Portal’ or ‘Digital Projects’ would identify the Portal’s content donors.
- ‘Digital Projects’ links to the UNT Digital Projects Unit, but this is not at all what users expect. Both expected ‘Digital Projects’ to provide information regarding the contents of the Portal: what digital materials are in the Portal or what the Portal’s ongoing digitization projects were. Selecting this link could inadvertently lead users down a path outside of the Portal in their attempt to discover information about the contents of the Portal.
- User was not sure if the ‘search’ would help her go into an advanced search; the Basic Search screen was already visible; she did not mention seeing the ‘advanced search’ link on the page.
- One expected ‘Help’ to clarify for the researcher where to go and what to do when looking for materials and when encountering certain kinds of problems.
Recommendations

- Perhaps this page and/or the home page should in some way make the Portal’s contents more visible, for example, by illustrating the types of information objects in the Portal.
- Linking to the Digital Projects Unit from ‘Digital Projects’ does not seem to be a navigational priority for users, who expect that link to provide information about the contents of the Portal. Consider deleting this link from the main navigational options.
- Advanced search may need to be more visible on the screen.
Scenario 1: Discover Materials that Answer a Question

**QUESTION**
Did your ancestor Darius Collee (or possibly Colley) live or work in Fort Worth, Texas, around 1900?

Please do the following:
1. Locate materials.
2. Examine the list of results.
3. Select item(s) that might answer the question.
4. Evaluate the quality of the item(s).
5. Locate citation(s) information.
6. State how you would share items you find with others.

**Observations**

Basic and Advanced Search
- Most only used the basic search
- One started with basic and then used advanced search
- Another looked at advance search but elected not to use it

Search Arguments
- Name searches are the first starting point
  - Full names
  - Surnames
  - Names: spelling variations
- Started with full name; then just surname; then just location (Fort Worth); then just year (1900)
- Started with surname ‘collee’; second search: “collee, darius” → no results
- User did basic search on ‘darius colley’ and got no results
- Commented on name variations in genealogy; genealogists are used to this; sometimes people go by their middle names
- Did not read the hints provided for improving results; but when directed to do so, immediately searched only using the last name ‘collee’
- Quote: “I might start by typing in the name of the ancestor. It usually doesn’t do much. But it’s often where people want to start.”

Browse
- User did not have success with name search, so selected browse and the ‘browse by county’ was displayed but user did not know the location of the county of interest on the map.
- Another user browsed by Tarrant county; knew to hover to recognize the county; was generally familiar with where it was located; user next tried to browse by subject/people but decided that wasn’t “going to do anything”; went back to basic search
Another user elected to browse; knew about the location of Tarrant County (for Ft. Worth) and was curious to look there; seemed to read the hover text as well
  - Browsing by county brought up 2024 documents; Quote: “My goodness! That would take forever.” However, user decided to sort the 2024 results by date starting with oldest and noted how quickly she got to 1900, which was the date she was looking for
  - User selected ‘browse by era’ but could not locate ‘1900’ specifically in the descriptions of the eras listed; later in looking at an object’s description user noted it was in the ‘Oil and Gas era’ and commented that she had wondered about that

Citation Information
- URL and location of source material
- Place, era, names
- Where the original is located; who gave the object to the Portal; where the building (photo of house) is located today (the address)
- ‘Collection’ information from the descriptive record page (where original is located); accessed through the Portal; in this manner one would not have to go to Tarrant county to see the object

Collection Selection
- Wanted to start by selecting and searching the census
- After a few unsuccessful searches and being unable to locate hits, user stated she would use the census to answer this question and would not search further on the Portal.
- Another stated would use a 1900 census if there was one

Evaluating Search Results
- Dates are very important in evaluating search results.
- Hard for user to know if the yearbooks have information of interest. User reviewed search results based on dates. Date for STIRPES was publication date and she ruled this object out not knowing that information might cover other dates.
- User got lost in the content and needed to understand why the initial search results were returned in order to not get lost
  - User selected one object of possible interest; navigated through 2 pages; viewed description; used browser to find search terms in page; no luck; reviewed the descriptive metadata in particular ‘coverage’ and commented that those counties were not the ones she wanted; then selected the ‘collection’ link, which returned over 2000 objects and user puzzled how best to search those objects
- Scanned results for search term; did not see it; clicked on ‘more info’ for the first search result but did not locate search term

Finding Hits
- While viewing the descriptive information for an object, used browser’s ‘find in page’ for search term rather than flipping through pages of an object
- Another user was familiar with selecting hits in text

Object Metadata
- User would like to see names for the people in the picture
- Users seem to expect all/some of the information in the metadata display to specifically relate to their search, versus relate to the object:
User expected that clicking on an institution name might bring her to more information about the man in the picture; seems to be some confusion regarding what ‘institution’ means: thought maybe the individual in the picture had gone to this institution, despite the alt-text being visible.

User noticed in description of an object that ‘coverage era’ was Oil and Gas. She wondered: What was the connection between Darrius Colley, streetcar conducting, and the oil and gas era? This user is confused about what eras mean on the Portal; thought at first eras related to dates; now seems to think the era is related to the person and his profession.

Site Navigation
- User navigated back to basic search screen using the browser’s back button; there was a ‘search’ link visible in the footer; the search link in the header was not visible.

Creative Commons
- Had not seen the CC; was familiar with a different icon; thought the CC would prevent you from sharing the information.

Sharing
- Would prefer to have digital images and records. Would compile and publish information for sharing with others.
- When asked how she would share what she found, she looked at the browser icons. Saw email and print; did not initially see a place to send the page; but then saw under the email icon choice to send a link or send the page and said that’s what she would do.
- Would use the permalink – the URL – would save that to pass along to others. Assumed each object has a unique URL.

OCR
- Noticed that ‘collee’ returned search results for ‘Austin College’ and for ‘coffee’
  - Quote: “That’s frustrating.”

Genealogical Research
- User recognized on a STIRPES page an entry from a person who was looking for Colley or Collee and noted that that person might be a source of more information.
- Genealogists are used to selecting collections to search within, for example, the 1900 census.

Problems

Portal Contents
- The initial user interface to the portal does not describe or in some way reflect the types of materials that the Portal contains.
- User selected ‘Digital Projects’ thinking this would be a list of the digitization projects; asked “Do you have the Fort Worth Star Telegram?”

Locating Hits in Search Results
- User could not readily find their search term in a selected object. Used browser ‘find in page’ feature on the descriptive metadata page.
Links in Metadata Records
- User had selected the collection link in the metadata record for an object and then the institution link in the metadata record for one of the objects in a collection. By now, the user was clearly far away from her original search and wondered: “Can I go back?” Decided to just do another search.

OCR Related
- Noticed that ‘collee’ returned search results for ‘Austin College’ and for ‘coffee’. User could ascertain this fairly quickly but wondered why this had happened.
- Another user, in noting the Chromoscopes in the search results for ‘collee’, thought the name might be a student or faculty member.
- In exploring the hits in text for objects, user realized the search for ‘collee’ returned any results that had “the sequence of letters in them” even when other letters were included, e.g. college

Question
- In the table below, why does using advanced search ‘at least one of the words’ result in:
  - Three results for ‘Colley Collee’?
  - No results words ‘Colley Collee Darius’?

<table>
<thead>
<tr>
<th>Search term(s)</th>
<th>Basic</th>
<th>Advanced: at least one of the words</th>
<th>Advanced: with all of the words</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colley</td>
<td>88</td>
<td>88</td>
<td>88</td>
</tr>
<tr>
<td>Collee</td>
<td>16</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>Colley Collee</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Colley Collee Darius</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Recommendations
- Name searches are a first priority for genealogists.
  - Provide help regarding how to format successful name searches
  - Include names in the metadata as a priority
- Include URL and location of source object in citation
- Identify the types of records of use to genealogists that are and, perhaps that are not, included in the Portal
- Consider making date information, as related to content, more visible in search results and record.
- Highlight search terms in search results and metadata records.
- Provide ability to readily do subsequent searches without using browser’s back button
- Provide ability to search within a county from a map of Texas counties; however, users need to readily identify the county(s) of interest
- Alert users that the OCR search feature sometimes produces some unexpected search results; provide some examples
- Make the contents of the Portal, for example the types of objects, more visible to users
- Provide descriptions of what types of objects are included in each era and what criteria are used in placing objects in an era
Scenario 2: Discover Materials that Confirm a Hypothesis

HYPOTHESIS
Your research suggests that your ancestor, H. M. McDaniel, owned land near Lake Dallas, Denton County, Texas around 1940.

Please do the following:

1. Locate materials that might confirm your hypothesis.
2. Examine the list of results.
3. Select item(s) that might confirm your hypothesis.
4. Evaluate the quality of the item(s).
5. Locate citation(s) information.
6. State how you would share items you find with others.

Observations
Basic and Advanced Search
- Began with basic search
- User wanted to do Boolean searches and questioned if she was missing how to do this? When directed to look more closely at the search page, immediately discovered advanced search. Even though this user was fairly experienced with the Portal and wanted to Boolean searches, she had never been able to figure out how to do that.

Search Arguments
- User started with surname and variations of surname, in particular including a space and no space between Mc and Daniel; User also searched on location: fist Lake Dallas, then Denton County; Commented on the difficulties with names that begin with “Mc”
- User began by entering the full name “H. M. McDaniel”; then search by location: Lake Dallas, Denton, Texas; then searched by date and location: 1940, Denton County Land Search
- User first searched by name and then tried searching to find land ownership information. A map did not occur to this person. In part, this is due to ignorance of the type of information in the Portal. The user understood that she would need to go elsewhere to find land ownership information.
- Entered a surname ‘mcdaniel’; got 219 responses – “a lot” but thought these could be narrowed by entering more than a last name; used the same name convention as in her first task: last name – comma- initials: ‘mcdaniel, h. m.’; user got a lot of responses and could see that some were there because of: ‘h.’; tried using quotes around name: “mcdaniel, h. m.” but got no results. When asked, “Would she investigate any further?” her response was “No, it’s a quick thing”, meaning searching and finding what you’re looking for should be fast. Selected “About the Portal” and said she would not take the time to read all that.
• Searched surname ‘mcdonald’ first; then surname and year (‘mcdonald 1900’); next added ‘denton’, the county of interest, to the surname (‘mcdonald denton’)
• User consistently included the surname in searches:
  o Searched by full name and county: ‘H. B. McDaniel Denton County’ (user made a mistake HB instead of HM but this would not have impacted the results); Did not get results that seemed useful
  o Revised search to eliminate the initials: ‘McDaniel Denton County’; Results not what she needed
  o Revised search: ‘McDaniel Lake Dallas’
• User wanted to find land records for Denton County; had a great deal of difficulty; tried sorting; tried name with county; no luck

Browse
• Map of Texas is of no help to this user because she is not from Texas and does not know the location of counties, although she might know the name of her ancestor’s county. Scrolled up and down on the map screen; moved the mouse around the map but did not discover the hover/alt-text feature with names of counties.

Citation
• URL and location of source material
• Would use institution and collection
• Citation for map: Where it’s located on the Internet and who it’s drawn by

Collection Selection
• User immediately stated she would “want to go to deeds” to answer this question. Selected ‘Digital Projects’ to see where she might find deeds. User thought that ‘Digital Projects’ related to the resources she could interact with and would give her more information about the Portal resources.
• Elected to search for land records in Denton county

Evaluating Results
• Evaluated search results using: Name, County, and Date
• After a place name search, user selected an object based on date.
• 338 results was “a lot”, likely too many; wanted to narrow them down but no way to search within them; selected one item and immediately looked for the index – there wasn’t one
• User was trying to look inside the document for the place name of interest but could not find a way into the document; went to view of pages, scrolled up and down; went to description and found the search inside box; did not get any results for her place name

Object Metadata
• After searching for the place name ‘Lake Dallas’ and selecting the object based on date, user examined the record to find a specific name

Object Navigation
• User actually located the maps of Lake Dallas that contain ‘McDaniel’ but could not read the text on the maps and did not seem to know how to enlarge them. Suggested she would download them and use a magnifying glass to read the printed copy.
• User asked: "Is there any way I can make this larger?" When told to try the magnifying glass, she commented: “I didn’t even see that. Isn’t that interesting?”
• User did not discover that she could activate the enlarge/move navigation box by hovering over the image.

Site Navigation
• Used back button to navigate back to search results
• User selected the ‘Digital Projects’ link to see what the contents of the Portal are; did this as an initial strategy; was looking to browse Denton county
• When looking through 433 records and wanting to go back to do another search, user first used the browser’s back button but after 2-3 times, elected to use the Search link in the footer

Sharing
• Would give others the URL
• Would send the link or the page using the browser’s email option.

Genealogical Research
• Genealogists search within using name, location, and date.
• Genealogists are familiar with record types, like land records, and which ones might best satisfy a particular research goal.

Problems
‘Search Within’ an Object
• Looked for something to 'click' to start the search inside the object. Was not certain what to do but tried hitting 'enter', which worked.

Relevance
• User clicked on the sort drop-down menu; thought it had choices for ‘relevance’; did not see that ‘relevance’ was the default way that the results were already presented/sorted.

Navigating Search Results Pages
• In looking through a large number of search results (land records Denton County), user had some interest in looking through them; tried various sorts; task included a date and she sorted by date and then tried to jump to her date but was limited by the page navigation, which only included a few numbers at the beginning and at the end of the results; couldn’t get to the middle pages readily; very time-consuming

Enlarging Object
• User navigated from search results to record to object. Did not find search terms in the record and could not read the information on the map.
• User did not see the magnifying glass icon to enlarge the image.
• Another user did not see the magnifying glass and did not know that she could activate the enlarge/move navigation feature by hovering over the image.

Search Results
• User thought that the system was ignoring the date and putting the results in alphabetical order: Why were all those Collin County chronicles coming up when she had entered Denton
County? And they all had dates different from 1940, which she had entered. User thinks the system is not considering her search term priorities.

Advanced Search

- User wanted to do Boolean searches but questioned if she was missing how to do this? When directed to look at the search page, immediately discovered advanced search.

**Recommendations**

- Make the advanced search option more visible
- Provide some help or general information regarding how objects in search results are selected; provide examples that are not readily obvious to users
- Provide some help information for genealogists regarding how names are and are not included in metadata and how they are and are not available for searches
- For any map of Texas counties, provide a way for users to discover county locations
- Citation should include: URL, location of source, institution, collection, who created the source object
- Provide an obvious way to enlarge images particularly to zoom on map text
- Object descriptions should state that the object includes names of people
- Include name and location information whenever possible in object metadata
- A date element needs to be specific to the content in addition to the publication date.
- It is increasingly obvious that at the front end or upon entry to the Portal, the types of content it includes should be made more obvious.
- Identify the Index when present in objects
- Allow searching from within search results to narrow them
- Provide help for formatting name searches
- Make the county names obvious on the Texas map
- Do not include ‘Digital Projects’ in the main navigation scheme
- Include in the main navigation scheme a link to a description of the Portal’s contents
- Identify common types of records used by genealogists in the type element in metadata records
Scenario 3: Discover Materials that Prove Statements

STATEMENT
Your grandmother often stated that even though her sister, Minnie Shahan, (born 1891) is buried in Elmhurst Cemetery in Oklahoma, she actually died in Texas.

Please do the following:

1. Locate materials that might prove your grandmother’s statement.
2. Examine the list of results.
3. Select item(s) that might prove the statement.
4. Evaluate the quality of the item(s).
5. Locate citation(s) information.
6. State how you would share items you find with others.

Observations

Basic and Advanced Search
- Used advanced search first
- Used basic search
- Having asked how to do Boolean searches and having just used the advanced search interface, this user chose to start searching using the advanced search feature

Search Arguments
- Thought name was unique and this was a benefit in locating information. Used surname and specified a date range in advanced search. Unfortunately used two different date ranges in two searches but both were in the early 1900’s that did not result in the object being found.
- User entered name as Shahan, Minnie: “That’s what we all do first”
- Started with name search: Minnie Shahan

Citation
- Says she is bad at citing sources; would just say where she got it, that is, in the Portal to Texas History. She might write down the exact steps she took to find an object and then where she got it.
- Would include: that it was found on Portal to Texas History, the title, and the abstractors, whom she looked for on the page but soon went to the description and located them.
- Viewed the record (descriptive metadata) for citation information. Would use URL (permalink) but would “be compelled” to cite the book (title) and the authors/compilers; would do a regular text citation
Finding Hits
- User at first rejected the object containing the information that would prove the statement because the year “was wrong” in the descriptive metadata; after some prompting regarding the death date possibility the user selected the object’s thumbnail but could not see the person’s name; selected the description but still could not find the name she was looking for; was prompted regarding searching inside the document, user readily found the search box. User had to repeat the search and in this case entering ‘shahan’ brought up ‘shaefer’.
- Got the correct object at top of list; selected the thumbnail to get to the hit; did not select ‘hits in text’; got the cover page and a drop down menu and immediately looked for an Index. Saw no way to get to the appearance of the search term in the document.
- User had discovered the correct object for the task but could not locate person’s name in the document; hits in text were not indicated on the search results; never discovered/tried ‘search within’
- When user selected the object of interest (the death index), user assumed it was ordered alphabetically and guessed that ‘shahan’ would be “about page 130” but then concluded the index was organized by year; user went to the end of book, looking for the Index but there was none. (In fact the body of the book is organized alphabetically but page 130 was in an Appendix that was organized differently.) When the document was returned a second time in a subsequent search result set, the user tried the first few pages and decided it was in alpha-order and was successful in locating the person’s name by trial-and-error navigation.
  - Quote: “Even though it is alphabetical, and, once I decided I had to go that route, it wasn’t too bad, but in an ideal world all of the names would be indexed.”

Sharing
- Would email the information; but somebody might not have a computer, so she would print the description page and the actual object page with the information.
- If wanted to do quickly, would give them the URL

Genealogical Research
- Used to combing through a great number of search results to find objects of interest.
- Interested in making copies of objects of interest.

Problems
Navigating to Hits
- After selecting object of interest in the results (that did not indicate hits in text), user went first to contents and then guessed at where in the book ‘shahan’ would be listed alphabetically
- In search results, for an object that included ‘hits in text’ link, but for which users clicked on the thumbnail, problems resulted and users had difficulty finding or failed to find the hit in the document.
- Got the correct object at top of list; selected the thumbnail to get to the hit; did not select ‘hits in text’; got the cover page and a drop down menu

Search Inside
- When/if user discovers the ‘search inside’ box on the description page, they have to re-enter their search term.
Question

- How come, an advanced search and using ‘shahan’ in different fields, has different results in terms of whether ‘hits in text’ are identified or not:
  - With all the words: yes, hits in text indicated
  - With the exact phrase: no, hits in text not indicated
  - With at least one of the words: no, hits in text not indicated

Recommendations

- Users need an easy way to identify their hits and an easier way to search within books for their hits. How to get to the location of search terms needs to be more visible to users. If user selects the thumbnail of an object, there should be some way to get to the hits; at a minimum some way to get to an index.
  - Include the ‘hits in text’ on every page of an object and on the descriptive record.
  - Include search terms on every page of an object
  - Make searching within objects more visible
- Identify the index and contents pages, possibly in three places: search results, object pages, object description
- Include object’s URL, title, and compilers in citation
- Provide ability to readily print objects
Scenario 4: Discover Materials that Provide Background

SUBJECT
You are going to give a presentation about Norwegian immigration to Texas.

You have just discovered the Portal to Texas History and would like to know if it contains source materials that would help with your research.

Please do the following:

1. Locate materials about Norwegian immigration.
2. Select items that match your research interest.
3. Examine the item(s).
4. Locate citation information for items you wish to reference.

Observations

Basic and Advanced Search
- Used basic search
- Quote: “Let’s go to advance search. I like that better.” This comment made after asking if there was a way to do Booleans in the second task and using the advance search in the third task.

Search Arguments
- User readily discovered useful material using: ‘Norwegian immigration’
- Started by searching: ‘Norwegian immigration to Texas’

Citation
- URL and location of source material

Evaluating Results
- The STIRPES’ (and perhaps similar journals) description is quite general. User wants to know why a particular volume is in her search results. Where are her search terms? Because the descriptions were so general and did not in some way allude to her search terms, she concluded they did not have what she was looking for.
- User evaluates objects by (1) the text returned with an object in the search results, then (2) object descriptions and then (3) by the text returned with objects/pages after ‘searching within’ an object. The only time the user looked at specific pages is when she clicked on the thumbnail on the initial search results.
- Got 38 results searching ‘Norwegian immigration to Texas’ and looked at the entire search results list; reviewed the descriptions to see if they mentioned “Norwegian” and only a few of the pictures did; so she broadened her search rather than looking at specific document objects.
Actually, there is a great article in STIRPES that came up on her first page of search results but because of the generic description provided she did not discover it.

- Second search: ‘Norwegian immigration in Texas’; explored the first STIRPES object and discovered the article about Norwegian immigration in a few minutes; first thought it was only a bibliography

Sharing
- User wanted to download images (photographs of plaque and houses) to use in presentation

Genealogical Research
- User went off on a tangent – off task – following coverage link in the description for one of the objects. Stated that this was a usual thing that happens to all genealogists.

Problems
Metadata
- STIRPES issues did have good information about the topic user was researching but because the search terms were not visible in the search results or the item descriptions, she concluded the results of her first search for ‘Norwegian immigration’ did not have what she was looking for.

Recommendations
- Ability to download images and citation information
- Include the article titles from STIRPES volumes/issues in the descriptive metadata
User-initiated Searches

Observations

Search Arguments
- Used surname and Texas county
- Search for ‘Scottish immigration’

Evaluating Results
- Liked results that identified hits – this was after she had explored this link in a previous search.
- User interested in Denison County Club. Searched and got year book results (Chromascope). Also has used year books as source material in previous research. She was captivated. Stated she would go through every page of the yearbooks. From her we learn that personal interest and past experience are great motivators.

Object Metadata
- Quote: “The thing that I would look at in a different way – and again, it’s such a big thing to index every name in everything – if that could be done, in trying to bring up these names, it would certainly be an easier thing. Like, sometimes . . . I know that maps often are never indexed; but, any name that could be indexed, should be. . . on any source material that is available.” “Of course, I know that the way you receive material is limiting in what’s there. But I really think that you’re moving in a very positive way. I like the program.”

Object Navigation
- Found a tax roll record; enlarged the object with magnifying glass but still could not read the details.
- User wanted to zoom in on a page (make it larger); first tried to use browser features to do this; then discovered and used the magnifying glass icon; did not seem to notice or perhaps know what to do with the zoom box in lower right of screen.

Site Navigation
- For a second time after user scrolled down in search results and then wanted to return to the search screen, user only used the back button and did not scroll up to access the search hyperlink at the top of Portal page.

Recommendations
- Users want to zoom in on object pages of interest, such as maps and year book pages. Provide obvious zoom ability for all images.
- Include search feature on search result pages
Appendix A  Test Script

Scenario 1: Discover Materials that Answer a Question

QUESTION
Did your ancestor Darius Collee (or possibly Colley) live or work in Fort Worth, Texas, around 1900?

Please do the following:

1. Locate materials.
2. Examine the list of results.
3. Select item(s) that might answer the question.
4. Evaluate the quality of the item(s).
5. Locate citation(s) information.
6. State how you would share items you find with others.

Scenario 2: Discover Materials that Confirm a Hypothesis

HYPOTHESIS
Your research suggests that your ancestor, H. M. McDaniel, owned land near Lake Dallas, Denton County, Texas around 1940.

Please do the following:

1. Locate materials that might confirm your hypothesis.
2. Examine the list of results.
3. Select item(s) that might confirm your hypothesis.
4. Evaluate the quality of the item(s).
5. Locate citation(s) information.
6. State how you would share items you find with others.
Scenario 3: Discover Materials that Prove Statements

**STATEMENT**
Your grandmother often stated that even though her sister, Minnie Shahan, (born 1891) is buried in Elmhurst Cemetery in Oklahoma, she actually died in Texas.

Please do the following:

1. Locate materials that might prove your grandmother’s statement.
2. Examine the list of results.
3. Select item(s) that might prove the statement.
4. Evaluate the quality of the item(s).
5. Locate citation(s) information.
6. State how you would share items you find with others.

Scenario 4: Discover Materials that Provide Background

**SUBJECT**
You are going to give a presentation about Norwegian immigration to Texas.

You have just discovered the Portal to Texas History and would like to know if it contains source materials that would help with your research.

Please do the following:

1. Locate materials about Norwegian immigration.
2. Select items that match your research interest.
3. Examine the item(s).
4. Locate citation information for items you wish to reference.

This is the end of the session. Thanks very much for your help!
Appendix B  Participant Questionnaire

1. What is your gender?  _____ Female  _____ Male

2. What is your age group? (check one)

   | 21 - 30 | 41 - 50 | 51 - 60 | 71 - 80 |
   | 31 - 40 | 51 - 60 | 61 - 70 | 81 - 90 |

3. How many years have you been doing genealogical research?  __________

4. Please indicate if you hold any of the following professional genealogical credentials.

   | Membership in the Association of Professional Genealogists (APG) | Yes | No |
   | Certification by the Board For Certification Of Genealogists (BCG) |     |    |
   | Accreditation from The International Commission for the Accreditation of Professional Genealogists (ICAPGen℠) |     |    |

5. List any other genealogical credentials or affiliations that you have:

6. Please indicate if you would like the Portal to Texas History to allow users to:

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<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>Don’t Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>Save search results</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Receive RSS feeds of search results</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access personal search history for an active session</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Save items (images, maps, letters, etc.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Add items to personal “favorites”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rate items on a historically significant scale</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annotate images (like Flickr)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Build and maintain lists of objects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comment on items</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comment on comments written by others</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

7. Please indicate if your browser has:

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<th>No</th>
<th>Don’t Know</th>
</tr>
</thead>
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<td></td>
</tr>
<tr>
<td>JavaScript enabled</td>
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</table>

8. Your additional comments are welcomed. (Please use back if more space is needed.)