

**Optimizing the User Experience
in a Rapid Development Framework**

**USABILITY TESTS:
SUMMARY REPORT**

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Introduction

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 History¹ and to redesign the interface to the Portal to meet those requirements. Using a user-centered design approach, the project² involved genealogists in the design process, beginning with the initial assessment of their requirements and continuing through usability testing of the redesigned Portal interface. This is a summary report of the findings of the usability tests, which were conducted at three periods in time over the course of the project (Table 1).

Test Period	Dates
Baseline	March - April 2008
Release 1	August 2009
Release 2	November - December 2009

Table 1. Usability Test Periods

Figure 1 illustrates the high-level information seeking process users employ to satisfy their research goals or meet their information needs. In practice, prior to ultimately selecting objects that meet their goals and needs, users typically conduct multiple searches, evaluate multiple search result sets, and investigate many individual objects. Usability testing for the Portal was concerned with each stage in the information seeking process and with users' interactions with different types of information objects (i.e., photographs, maps, and books).

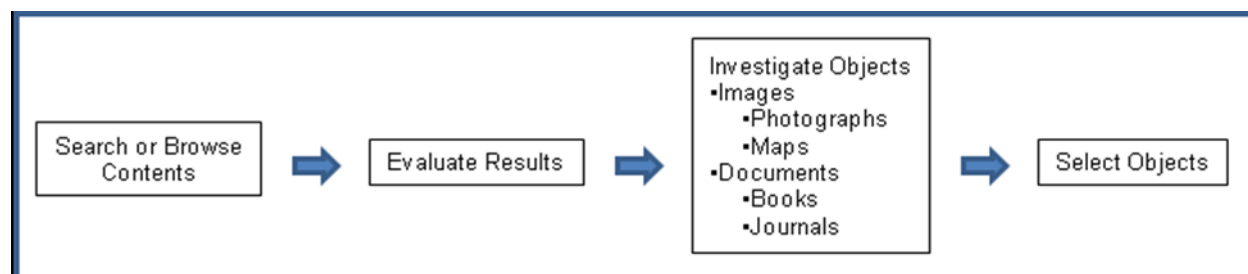


Figure 1. Information Seeking Process

Findings of the baseline tests provided input to the functional requirements for the overall redesign of the interface. The findings both supported and added to other requirements that had emerged in focus group discussions with genealogists. The baseline findings also provided a measurement, prior to the

¹ 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. [<http://texashistory.unt.edu>]

² Originally titled *Optimizing the User Experience in a Rapid Development Framework*, the project is known as: IOGENE - Interface Optimization for Genealogists. [<http://iogene.unt.edu>]

release of the redesigned interface, of the efficiency and effectiveness of the Portal in terms of meeting the typical information needs of genealogists and family history researchers. A detailed report of the baseline test findings is available on the project website.³

Usability tests conducted subsequent to both Release 1 and Release 2 of the redesigned Portal interface used unique test scripts. For each release, the tests were targeted to evaluate specific features and functions of the redesigned interface. The findings from Release 1 tests informed the design of Release 2. Likewise, the findings from Release 2 tests will inform subsequent enhancements to the Portal interface. This report includes the key findings from the Release 1 and Release 2 test periods.

Methodology

Participants

Eighteen volunteers were recruited by the project's advisory board members from four North Texas Genealogical Societies. During the testing sessions, each participant completed the questionnaire in Appendix A, which captured basic demographic data about them as well as information regarding their experience as a genealogist.

The participants included 15 females (83%) and 3 males (17%), ranging from 31-80 years of age. Most participants (78%) were over age 50 (Table 2).

	All			Baseline		Release 1		Release 2	
Years	#	%		#	%	#	%	#	%
31 - 40	2	11%		0	0%	2	29%	0	0%
41 - 50	2	11%		2	40%	0	0%	0	0%
51 - 60	7	39%		2	40%	3	43%	2	33%
61 - 70	6	33%		1	20%	2	29%	3	50%
71 - 80	1	6%		0	0%	0	0%	1	17%
Total	18	100%		5	100%	7	100%	6	100%

Table 2. Age of Participants (N=18)

Participants had been doing genealogical research an average of 19 years, with two persons having no experience and one person having 45 years of experience (Table 3). Two participants were members of the Association of Professional Genealogists (APG) and three were members of the National Genealogical Society (NGS). Many were members of other local and regional genealogical societies, primarily in Texas, but also in other locations in the United States and internationally.

³ Denton County Genealogical Society: Initial Usability Test Result [http://iogene.library.unt.edu/wp-content/uploads/2008/12/ut_final_rpt_krm_18aug2008.pdf]

	All			Baseline		Release 1		Release 2	
Years	#	%		#	%	#	%	#	%
0	2	11%		0	0%	2	29%	0	0%
1-9	5	17%		1	20%	1	14%	1	17%
10-19	6	33%		3	60%	3	43%	0	0%
20-29	3	17%		0	0%	1	14%	2	33%
30-39	3	17%		1	20%	0	0%	2	33%
45	1	5%		0	0%	0	0%	1	17%
	18	100%		5	100%	7	100%	6	100%

Table 3. Years of Genealogical Research Experience (N=18)

Test Scripts

While each of the three testing periods utilized unique test scripts⁴ to evaluate features and functions of the Portal, they shared in common a set of scenarios that correspond to four typical information problems that genealogists address (Table 4). These scenarios provided a familiar context for the genealogists participating in the testing and added to their enjoyment of the testing experience.

Task	Information Problem ⁵	Scenario
1.	Question to answer	Did your ancestor Darius Collee (or possibly Colley) live or work in Fort Worth, Texas, around 1900?
2.	Hypothesis to test	Your research suggests that your ancestor, H. M. McDaniel, owned land near Lake Dallas, Denton County, Texas around 1940.
3.	Statement to prove	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.
4.	Topic to investigate	You are going to give a presentation about Norwegian immigration to Texas [or the Alamo]. 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.

Table 4. Information Problems and Test Scenarios

The baseline usability test script was comprised of the four scenarios in Table 4 and participants were asked to complete the same set of tasks for each scenario as they interacted with the Portal to resolve the information problems. The test scripts used to test Releases 1 and 2 included tasks related to the new features and functionality in the redesigned Portal interface. There were 32 tasks included in the Release 1 script (Appendix D) and 42 tasks included in the script for Release 2 (Appendix F).

⁴ The test scripts are in the appendices: Appendix B, Baseline; Appendix C, Release 1; Appendix E, Release 2.

⁵ Adapted in part from Tucker, M. (August 2008). *Genealogy research process map*. Retrieved August 4, 2008 from <http://www.thinkgenealogy.com/2008/07/31/genealogy-research-process-map-version-2/>

Test Protocol

At the start of each one-hour test session, participants were informed of the purpose of the testing and signed a consent agreement. They were advised that there were no “right” or “wrong” actions they could take as they interacted with the Portal. They were informed that both their image and voice would be recorded, in addition to a screen recording of the actions they took during the tests.

A talk-aloud protocol was used in each test session. Participants were given test scripts and asked to read aloud the scenarios and tasks prior to attempting to complete them. They were encouraged to state their thought processes as they made decisions and took actions. When they were satisfied with their actions or results in regard to a task, they moved on to the next task and repeated the same process.

At the close of each test session, participants completed a questionnaire that identified demographic characteristics and captured their ratings of possible new features for the redesigned interface to the Portal to Texas History.⁶ Lastly, participants received a thank-you gift, which was typically a historical map reproduced from the collections in the Portal.

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. For the baseline and Release 2 tests, task completion was rated on a 3-point scale: 1=completed with ease, 2=completed with difficulty, or 3=failed to complete. Data from Morae Manager was also used to generate graphs for the baseline and Release 2 tests, as well as brief videos illustrating users’ behaviors.

Findings

Key findings are reported for each of the test periods. The findings of the baseline tests informed the functional requirements for Releases 1 and 2 of the redesigned Portal interface. This report includes the key issues identified in the Release 1 testing period, which followed the first release of the redesigned Portal interface. In the interest of communicating the findings in a timely and effective manner, the findings of the Release 1 tests were reported in a project staff meeting and a number of short videos were produced to illustrate users’ behaviors. Project team members were able to access these videos as needed for their work. Lastly, this report includes the principal findings from the third test period, which followed the public launch of Release 2.

Baseline Test Findings

The test script included four scenarios reflecting information problems that genealogists commonly seek to resolve. Specific tasks were not evaluated; however, participants’ resolution of the information problem in each scenario was measured. Additionally, the effectiveness and efficiency of the Portal to satisfy the information problems posed the test scenarios were measured.

Scenario 1. The most effective search argument was surname spelled ‘Colley’. Eventually, all but one of the participants met this goal in that manner.

⁶ The questionnaire also captured data regarding users’ interest in specific features the Portal might offer and their personal computing environment. The results of these questions are not included in this report.

- 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

Scenario 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 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

Scenario 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 search arguments 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*

Scenario 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 STIRPES⁷ that appeared on the search results list led fairly directly to an article related to the topic

Effectiveness

Overall, the Portal was only somewhat effective in meeting the information needs identified in the test script scenarios for the baseline period. Two participants did successfully identify resources in the Portal to satisfy all four of the scenarios, although neither completed all four with ease. The other three participants respectively accomplished 1, 2, and 3 of the tasks (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

⁷ STIRPES is the genealogical quarterly of the Texas State Genealogical Society.

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).

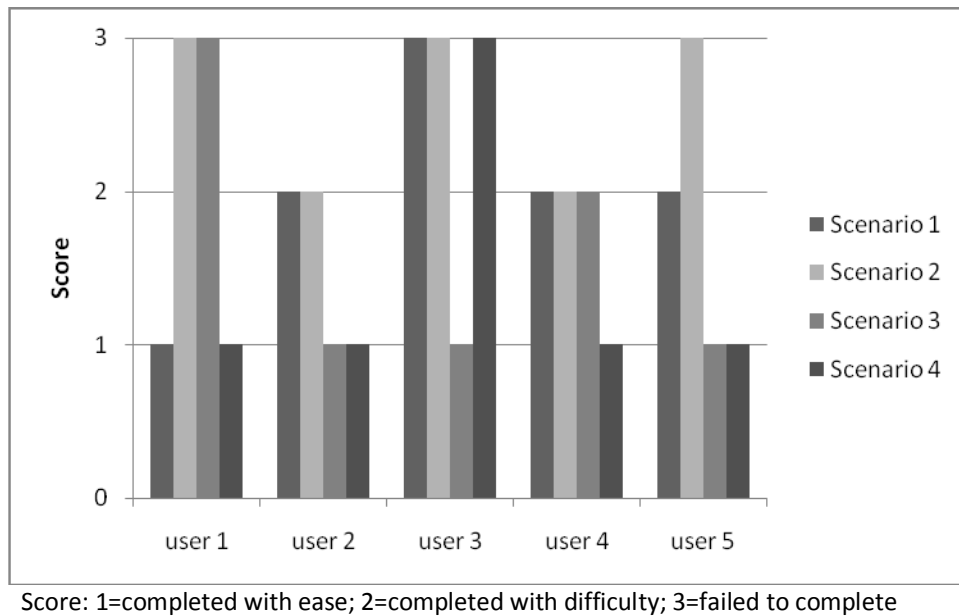


Figure 2. Task Completion by Participant

Efficiency

For the four scenarios, the Portal's efficiency, as measured by the average time participants engaged in resolving the information problems, is clearly related to the effectiveness scores. The more difficulty participants encountered in effectively resolving a problem, the more time they spent on it. Figure 3 illustrates that participants spent the most time on the second scenario, which contained the information problem they were least successful at resolving. Participants spent the second most time on the first scenario, which is consistent with the difficulty they had resolving it. Likewise, the time spent on the third and fourth scenarios reflects the relative ease participants had in resolving these problems.

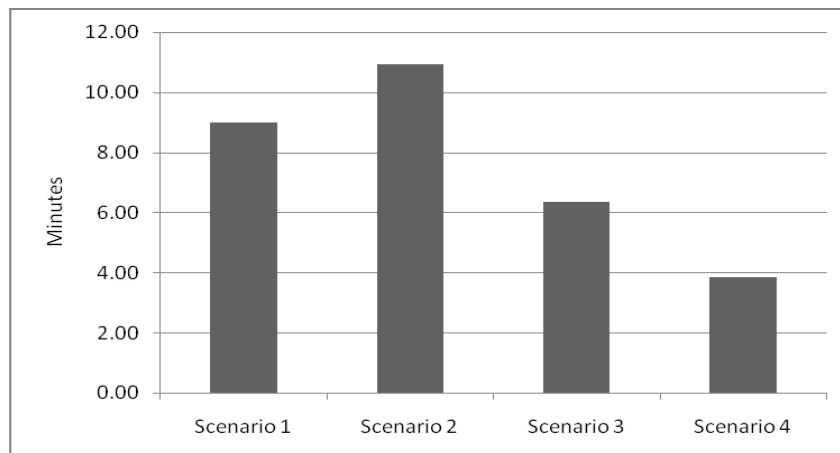


Figure 3. Average Time Spent Resolving Information Problems

Release 1 Test Findings

The test script used for the usability tests of Release 1 guided users through 32 discrete tasks in seven areas. The first and second tested features related to browsing the Portal: *Explore>Collections* and *Explore>Partners*. These two areas were emphasized in the Portal redesign to highlight the contributions of the Portal's partners. The third area tested users' ability to navigate to the Homepage in the absence of an icon or text link. The last four areas, with little modification, were the scenarios from the baseline tests, which contained typical information problems genealogists seek to resolve. These scenarios provided a familiar problem context for the participants.

In Release 1 of the Portal, the primary navigation options remained constant throughout the Portal while the secondary navigation options changed in accord with both the selected primary navigation option and the type of object displayed. For example, *Explore* as a main option had five secondary menu options and *Search* as a main option had secondary options for *Basic Search* and *Advanced Search*. The secondary navigation features for all objects included "about" and "use" features, but the text was appropriate to the object type. For example, 'about this book' and 'read this book' would be displayed for books, as shown in Figure 4. Additionally, object navigation and search features were included as secondary navigation features when appropriate, again as shown in Figure 4.

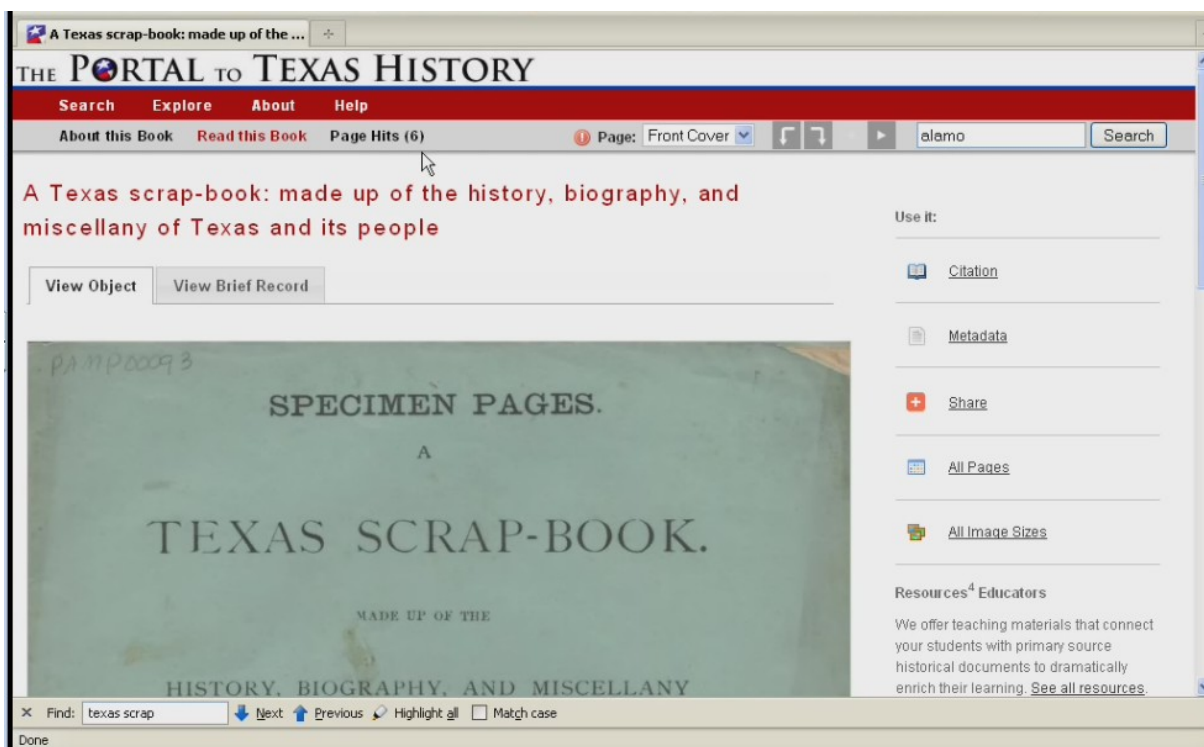


Figure 4. Illustration of Secondary Navigation for a Book

Secondary Navigation Issues

Several tasks related to the Portal's secondary navigation features. These are listed below. The italicized words indicate features accessible from the secondary navigation bar.

Task 1 *Explore*: Locate options; select options

Task 4	Collection: Read more <i>about the collection</i>
Task 19	Select <i>Read this book</i>
Task 18	Display "all <i>hits</i> " within item
Task 23	Select <i>about this book</i>
Task 29	<i>View this map</i>

The key problem was that users were unable to locate the secondary navigation features, in particular for the initial tasks that directed them to do so. Upon discovery of the secondary navigation, some users successfully applied their learning to future tasks, others did not. Many users were looking in the display area below the secondary navigation bar to locate the functionality specified in the tasks, for example, to *Display hits for an item*.

Other Issues

Task 8 Print record for item

- The *Share* window in right navigation is not 'pinned' to the screen; users have difficulty selecting specific share options, for example, the print option

Task 10 Return to homepage

- When directed to return to the homepage, most users looked for a 'home' feature (icon or text); in the absence of this, a few clicked on the Portal banner in upper left corner and were successful; many were not successful

Task 13 Limit search: to books

- It was not generally apparent that 'Submit' had to be clicked to initiate searches by type; in particular, when users completed one search and wanted to re-execute the search limited to books, some expected that clicking on 'Books' above the search box would initiate the search

Task 20 Use drop-down menu to navigate to a page

- If the drop-down menu was not visible in the secondary navigation bar, users were unsuccessful finding it; they did not select *Read this book* on the secondary navigation bar, which would have displayed the drop-down menu, and could not recall "where" they had previously seen that menu (i.e., on what screen display)

Task 21 Use navigation icons to navigate to a page

- Most had no difficulty with this task; a few users discovered the on-page side navigation for book pages and had some difficulty with the navigational text (*Prev* and *Next*) not being visible at all times (i.e., the user's mouse had to be at sides of pages for '*Prev*' and '*Next*' to be visible)

Task 22 Search within a book

- On the object page for a book, several users were unsure, when they input a search term within the search box on the secondary navigation bar, if the search would be executed within the

book itself or within the entire Portal; they surmised the search would be within the entire Portal

Release 2 Test Findings

The test script guided users through 42 discrete tasks grouped into seven areas. The first task area required users to access the Portal as a result of a Google search, which is a typical way users visit the Portal. The second and third areas once again tested features related to browsing the Portal: *Explore>Collections* and *Explore>Partners*. And similar to the test script for Release 1, the last four areas were essentially the scenarios from the baseline tests, which contained typical information problems genealogists seek to resolve. As in the previous test periods, the scenarios provided a familiar problem context for the participants.

Effectiveness: Average Task Completion Scores

As a measure of the effectiveness of the Portal for participants completing the tasks in the Release 2 test script, a completion score was assigned to each task they attempted. No score was given for tasks that were not attempted. The possible scores were:

1. Completed with ease
2. Completed with difficulty
3. Failed to complete

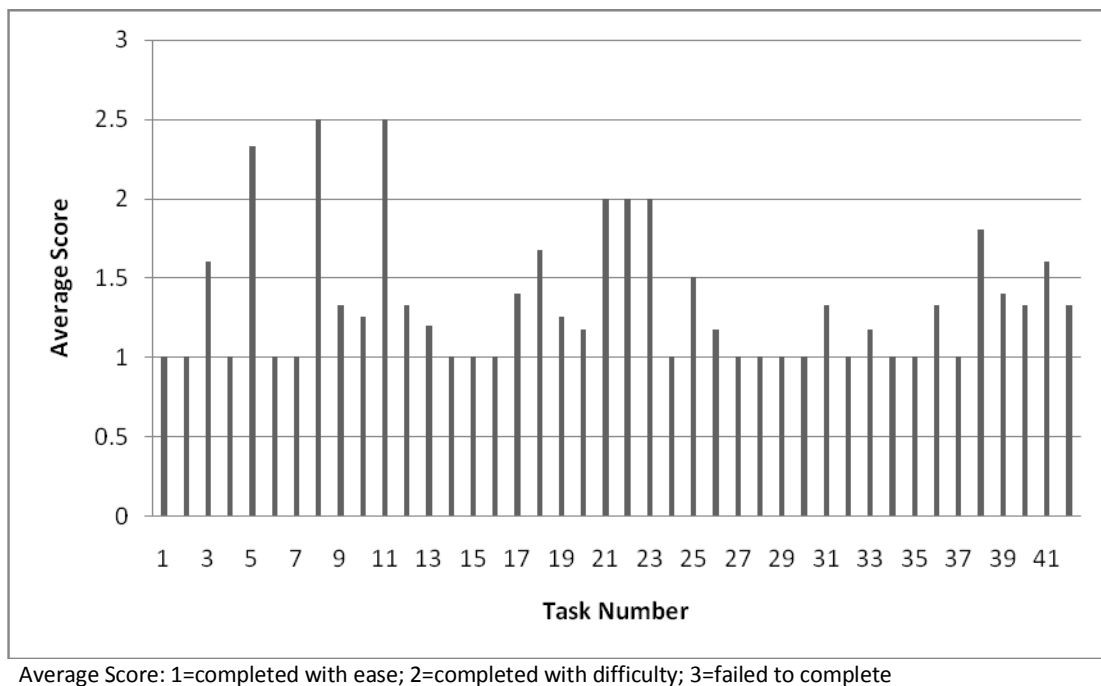


Figure 5. Average Completion Scores for Tasks

Figure 5 illustrates participants' average completion scores for each of the 42 tasks. The exact scores for each task are included in Appendix F. The major findings for the Release 2 tests are discussed in regard to the three task completion categories: (1) tasks completed with ease; (2) tasks completed with difficulty; and (3) tasks not completed.

Tasks Completed with Ease

All participants completed 17 (40%) of the 42 tasks with ease. The screen image in Figure 6 includes the features associated with these tasks, which included:

- Searching within a book (Tasks 4, 30, and 34)
- Selecting *Explore* (Task 7)
- Selecting *Explore>Partners* (Task 14)
- Navigating a book using the drop-down menu (Task 28)
- Navigating a book using icons (Task 29)
- Selecting *Explore>Locations* (Task 32)



Figure 6. Book Object Page

RELATED OBSERVATIONS

Primary (Main) Navigation

- Users readily discovered these options, which had been moved from Release 1

Search within a Book

- Adding instructional text to the search box on the object display pages resolved the confusion users expressed in the Release 1 tests regarding what they would be searching, that is, the entire Portal or within the object

Navigating a Book: Drop-down Menu

- From the drop-down menu, users expressed a desire to jump to a book's:
 - Index
 - Table of Contents

Tasks Completed with Difficulty

An additional 22 tasks were completed by most users, but some had difficulty doing so. Tasks with an average completion score greater than 1.5 were:

- Navigating pages of a book starting from its *About* page (Task 3)
- Locating contact information for a partner (Task 18)
- Searching for books (Task 21)
- Displaying additional pages of search results (Task 22)
- Displaying list, grid, and brief views of search results (Task 23)
- Viewing larger sizes of maps (Task 38)
- Displaying all image sizes (Task 41)

RELATED OBSERVATIONS

The screen image in Figure 7 illustrates some of the observations regarding searching and search results.

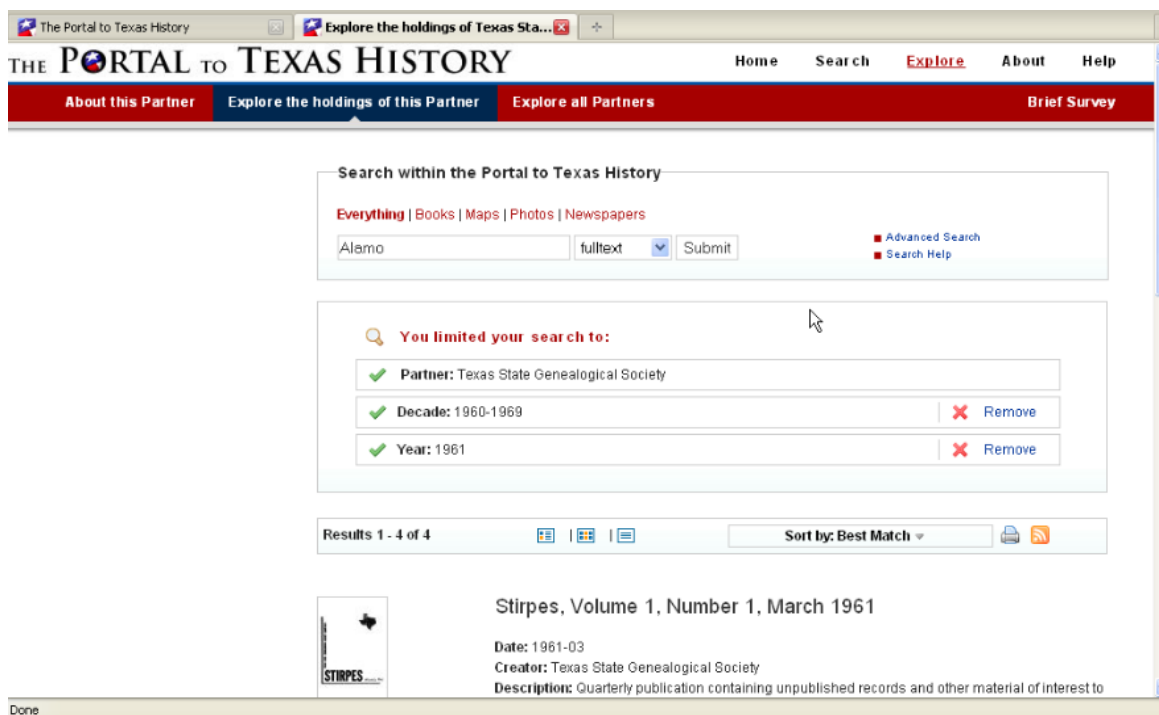


Figure 7. Search Results Page after Results were Limited

Searching from Search Results Page

- In general, on search result pages, users do not seem to intuit the relationships among:
 - Search results (that are displayed)
 - The box indicating the limits they selected, labeled *You limited your search to:*
 - The search box titled *Search within the Portal to Texas History*
- The search box title, *Search within the Portal to Texas History*, seems to imply that the next search will be of the entire Portal, rather than a refinement of the previous search

- It is not clear that the limits previously selected (and listed in the box under *You limited your search to:*) will apply to the next search

Search: Limiting to an Object Type (i.e., Books, Maps, Photos, Newspapers)

- When searching, users tend not to click *Submit* after they limit a search to an object type; this happens in particular when search results are visible on a page and the user is seeking to revise their search
- Users often expect that clicking on an object type will either:
 - Initiate a search (if they input a search term)
 - Limit the search results in the display to the object type selected, for example, limit the result to just maps

Search: Pull-down Menu

- Some remarked that they do not understand what the terms mean, for example, *metadata*
- One questioned the meaning of a *fulltext* search for searches using the Map object type

Search Result Display Icons: List, Grid, Brief

- Many users did not discover these
- Once discovered, some commented they liked the Brief and Grid views

Right-side Page Navigation

- Users seem to readily discover the features above *More Options*, e.g., *Citation* and *Share*
- However, some users fail to find the features listed beneath *More Options*:
 - All Pages
 - All Image Sizes
- Citation
 - Users tend to view the citation when directed to find out more about an object or discover what partner contributed an object; users tend to not select the About feature on the secondary navigation bar

Tasks Not Completed

The average completion scores for only three tasks were in the not completed range (i.e., average score greater than 2). These tasks were among those that tested users' ability to locate secondary navigation features:

- Viewing the brief and full records for a book (Task 5)
- Locating options for exploring the Portal (Task 8)
- Locating information about a collection (Task 11)

RELATED OBSERVATIONS

Secondary Navigation

- Users are not generally finding the secondary navigation options; however, once they become aware of them, users tend to select them
- Many users expect to see features/options below the navigation bars
 - users expect to see certain features immediately above a displayed object, for example, zoom feature for reading newspapers

- Some look for options on the right or left side of the display
- Often users will scroll to the end of a page looking for options
- One person remarked that navigation bar content was usually static so they did not look there for variable content

Closing

It is important to keep in mind that the test script used for the baseline tests allowed participants a great deal of latitude in regard to the actions they took. This was not true in the test scripts for the other two test periods, in which the tasks were proscribed and the scenarios were provided primarily for context. The unstructured nature of the baseline testing allowed participants to demonstrate their typical information seeking approaches. Observations from these tests reinforced the findings of the focus group discussions, which were the primary impetus for the functional requirements.

The baseline measures of effectiveness and efficiency were also informative and reinforced that cultural heritage materials in digital libraries are principally valuable for providing background and context to genealogical facts. It is this context that distinguishes a genealogical pedigree with names, dates, places, and life events, from a family history that situates the pedigree in society and culture. This is not to say that genealogists are unable to locate factual information in cultural heritage collections such as the Portal. In fact the Portal's diaries, bibles, city directories, genealogical society publications, and newspapers are treasures for genealogical researchers.

Two problem areas identified in Release 1 tests continued to be issues in Release 2 tests: Limiting searches to an object type (i.e., Books, Maps, Photos, or Newspapers) and locating secondary navigation features on the navigation bar. When searching, users tend not to click *Submit* after they limit a search to an object type. Further when search results are visible on a page, users expect that clicking on one of the object types above the search box will refine their search results accordingly.

Problems related to users locating and using the secondary navigation features were identified in the Release 1 testing and users continued to have these problems in the Release 2 testing. Users fairly consistently look below the navigation bar for features other than primary navigation features. Many looked in the right-side of the display, although some users did have difficulty finding the features listed beneath *More Options* on the right-side. In contrast, users easily located the Citation feature above *More Options* and used it to discover both more about an object and who had contributed the object.

With the presentation of facets for search results in Release 2, some confusion emerged in regard to searching from search results pages. In general, users do not seem to understand the relationships among (a) the displayed search results, (b) the box immediately above the results indicating the limits selected from the facets, which is labeled *You limited your search to:*, and (c) the search box above the limits box, which is titled *Search within the Portal to Texas History*.

From the outset, this project took a user centered approach to redesign the interface to an established digital library, the Portal to Texas History. In the design process, baseline usability tests contributed to the initial requirements for the redesign work, which was deployed in two releases. After each deployment, usability tests were again conducted, and analysis of the tests informed the requirements for subsequent enhancements to the user interface and system infrastructure.

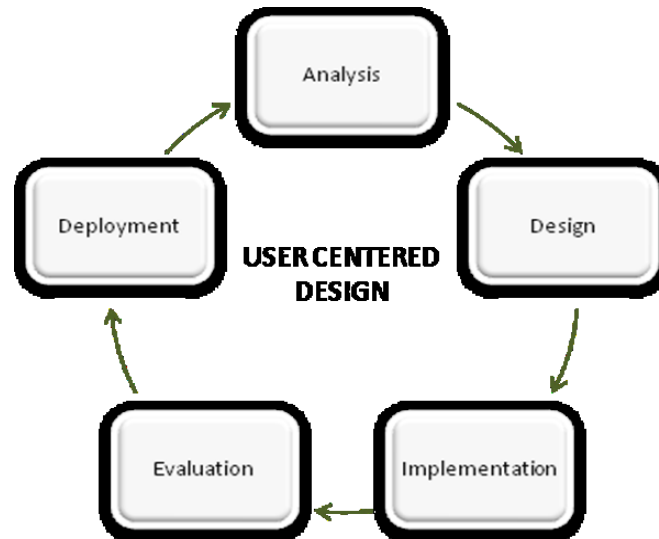


Figure 8. User Centered Design Model

The user-centered design model worked well for this project and has proven a good approach for implementing user requirements. For example, from the findings of the baseline usability tests we learned that genealogists could use some guidance in how to discover relevant resources on the Portal. While it was infeasible to modify the metadata for the Portal's objects to include a surname field, it was possible to develop a guide for genealogical researchers and to extend wildcard searches beyond metadata elements to fulltext. The work instigated by this project will continue and, with continued insight from usability testing, future work can be driven by users.

Appendix A. Participant Questionnaire

1. What is your gender? _____ Female _____ Male

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

<input type="checkbox"/>	21 - 30	<input type="checkbox"/>	41 - 50	<input type="checkbox"/>	51 - 60	<input type="checkbox"/>	71 - 80
<input type="checkbox"/>	31 - 40	<input type="checkbox"/>	51 - 60	<input type="checkbox"/>	61 - 70	<input type="checkbox"/>	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.

	Yes	No
Membership in the Association of Professional Genealogists (APG)	<input type="checkbox"/>	<input type="checkbox"/>
Certification by the Board For Certification Of Genealogists (BCG)	<input type="checkbox"/>	<input type="checkbox"/>
Accreditation from The International Commission for the Accreditation of Professional Genealogists (ICAPGen SM)	<input type="checkbox"/>	<input type="checkbox"/>

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:

	Yes	No	Don't Know
Save search results	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Receive RSS feeds of search results	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Access personal search history for an active session	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Save items (images, maps, letters, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Add items to personal "favorites"	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rate items on a historically significant scale	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Annotate images (like Flickr)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Build and maintain lists of objects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment on items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Comment on comments written by others	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. Please indicate if your browser has:

	Yes	No	Don't Know
Flash installed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
JavaScript enabled	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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

Appendix B. Baseline 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 C. Release 1 Test Script

Explore the Portal

Please do the following:

1. Select “Explore”.
 - a. Locate the options for exploring (browsing) the Portal.
 - b. Select a few options and browse the Portal.
2. Select “Explore → Collections” and view the contents of a collection.
 - a. Investigate the sorting options for the items in the collection.
 - b. Read more about the collection.
 - c. Display the recent additions to the collection.

Explore Partners

Please do the following:

1. Select “Explore → Partners”:
 - a. Select a partner.
 - b. Explore the holdings the partner contributed to the Portal.
 - c. Select an item from this partner.
2. View the full record for the item.
 - a. Compare the brief record and the full record.
 - b. How might you use the item’s records?
 - c. How would you print the item’s record?
3. View the metadata for the item.
 - a. How might you use the metadata?

Homepage

Please do the following:

1. Return to the Homepage.
2. Locate the options in the drop-down menu next to the search box:
 - a. State what each option (fulltext, etc.) means to you.
 - b. Are there different terms might you suggest?

Scenario 1: Discover Materials that Provide Background

You are going to give a presentation about the Alamo. You want to see if the Portal to Texas History contains source materials that would help with your research.

Please do the following:

1. Search for everything in the Portal using: Alamo
2. Limit the search results to books.
 - a. Display a few pages of the search results.
 - b. Investigate different ways to view search results:
list, grid, and brief.
3. Select: *A Texas scrap-book: made up of the history, biography, and miscellany of Texas and its people* by Baker
 - a. Display all of the book's pages.
 - b. Display the pages with 'hits'.
4. Select "Read this Book":
 - a. Use the drop-down menu to go to a specific page.
 - b. Use the navigation icons to read different pages.
5. Search within the book for either Bowie or Crockett.
6. Select "About this book".

Scenario 2: Discover Materials that Prove Statements

Your grandmother often stated that even though her sister, Minnie Shahan, (born 1891) is buried in Elmhurst Cemetery in Oklahoma, she actually died in Hutchinson County, Texas. You want to find materials that might prove your grandmother's statement.

Please do the following:

1. Select "Explore" and display all items for Hutchison County.
2. Search within Hutchison County for items to prove your grandmother's statement.
3. Examine the list of results.
4. Select item(s) that might be relevant.
5. Locate page hits and examine them.
6. Display the citation(s) information for an item(s).

Scenario 3: Discover Materials that Confirm a 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 items that might confirm your hypothesis.
2. Limit your search results to maps.
3. Select a map from the search results.
4. Select "View this Map".
5. View various sizes of the map.
6. Determine what Portal partner contributed this map.

Scenario 4: Discover Materials that Answer a Question

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

Please do the following:

1. Locate items that might answer the question.
2. Review item(s) from the search results.
3. Investigate individual items.
4. Display all sizes of the item.

This is the end of the session. Thanks very much for your help!

Appendix D. Release 1 Task Definitions

#	Task
1	Explore: Secondary Navigation -Locate options; select options
2	Explore Collections: view contents of a collection
3	Investigate sorting options for collection
4	Collection: Secondary Navigation; read more about collection
5	Collection: display recent additions
6	Explore Partners: Explore holdings; select item
7	Compare full and brief records for item
8	Print record for item
9	Right Navigation: View metadata; use metadata
10	Return to homepage
11	Locate search drop-down menu; explain terms
12	Search everything for Alamo
13	Limit search: to books
14	Display multiple pages of search results
15	Investigate list, grid, and brief views of search results
16	Select "A Texas Scrapbook"
17	Right Navigation: Display "all pages" of book
18	Display "all hits" within item
19	Secondary Navigation: Select Read this book
20	Use drop-down menu to navigate to a page
21	Use navigation icons to navigate to a page
22	Search within a book
23	Secondary navigation: Select about this book
24	Explore: County
25	Search within county
26	Secondary Navigation: Display page hits
27	Right Navigation: Display Citation
28	Limit search: to Maps
29	Secondary Navigation: View this Map
30	Right Navigation: View all sizes
31	Determine Portal partner for item
32	Right Navigation: View all sizes (second time)

Appendix E. Release 2 Test Script

Google Search

Please do the following:

1. Go to Google and search for:
Hutchinson County burials
2. From the Google search results, select the result at:
texashistory.unt.edu
(Note: This is the Portal to Texas History at UNT)
3. Read a few pages of this book.
4. Search within this book for the phrase:
"Jesse James"
5. Find out more about this book by viewing the brief and full records.
6. View the citation for the book.

Explore Collections

Please do the following:

1. Select "Explore":
 - a. Locate the options for exploring (browsing) the Portal.
2. Select "Explore → Collections":
 - a. View the contents of a collection.
 - b. Read more about the collection.
 - c. Display the recent additions to the collection.
3. Return to the list of all the collections in the Portal.

Explore Partners

Please do the following:

1. Select "Explore → Partners".
2. Select either:
 - a. Texas State Genealogical Society - or -
 - b. Collin County Genealogical Society
3. Discover more about this partner:
 - a. To what collections on the Portal have they contributed?
 - b. How would you contact them?
4. Explore the holdings the partner contributed to the Portal.
5. Limit the partner's holdings to:
 - a. A decade
 - b. A year

Scenario 1:

You are going to give a presentation about the Alamo and want to discover materials for your research.

Please do the following:

1. Search for books about the Alamo
 - a. Display a few pages of the search results.
 - b. Investigate different ways to view search results:
list, grid, and brief.
2. Select: *A Texas scrap-book: made up of the history, biography, and miscellany of Texas and its people* by Baker
 - a. Display all of the book's pages.
 - b. Display the pages with 'hits'.
3. Select "Read this Book":
 - a. Use the drop-down menu to go to a specific page.
 - b. Use the navigation icons to read different pages.
4. Search within the book for either Bowie or Crockett.
5. Select "About this book" and view the Full Record.

Scenario 2:

Your grandmother often stated that her sister Minnie Shahan (born 1891), who is buried in Elmhurst Cemetery in Oklahoma, actually died in Hutchinson County, Texas. You want to find materials that might prove your grandmother's statement.

Please do the following:

1. Select "Explore → Locations" and display all items for Hutchinson County.
2. Identify items in the list that might prove where your ancestor died.
3. Select an item(s) and search within it for your ancestor.
4. Examine any hits.

Scenario 3:

Your research suggests that your ancestor, H. M. McDaniel, owned land near Lake Dallas, Denton County, Texas around 1940. You want to discover evidence that might confirm your hypothesis.

Please do the following:

1. Search for relevant maps.
2. Select a map from the search results.
3. Select “View this Map”.
4. View larger sizes of the map and try to locate your ancestor.
5. Determine what Portal partner contributed this map.

Scenario 4:

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

Please do the following:

1. Search for a photograph of your ancestor.
2. Investigate individual items in the search results.
3. Display the available image sizes for an item
4. How would you download the largest image?

This is the end of the session. Thanks very much for your help!

Appendix F. Release 2 Task Definitions & Scores

#	Task	Average Task Score
	Google Search Start	
1	Search Google	1.00
2	Find PTH in Google search results	1.00
3	Navigate pages of book	1.60
4	Search within book	1.00
5	Locate About this Book – Records [Secondary Navigation]	2.33
6	Locate Citation	1.00
	Explore Collections	
7	Select Explore – Top menu	1.00
8	Locate Explore options – [Secondary Navigation]	2.50
9	Select Explore-Collections	1.33
10	View contents of a collection	1.25
11	Locate About the collection [Secondary Navigation]	2.50
12	Display recent additions from collection	1.33
13	Return to list of all collections [Secondary Navigation]	1.20
	Explore Partners	
14	Select Explore-Partners	1.00
15	Select GS partner	1.00
16	Select About this Partner [Secondary Navigation]	1.00
17	Locate Partner’s contributions	1.40
18	Locate Partner’s contact information	1.67
19	Explore Partner’s holdings [Secondary Navigation]	1.25
20	Limit holdings using facet	1.17
	Scenario 1: Discover Materials that Provide Background	
21	Search for books – Alamo	2.00
22	Display search result pages	2.00
23	Display list, grid, brief views of search results	2.00
24	Select Baker book	1.00
25	Display all pages	1.50
26	Display page hits	1.17
27	Select Read this book [Secondary Navigation]	1.00
28	Navigate book pages using drop-down menu	1.00
29	Navigate book pages using icons	1.00
30	Search within book [Repeat]	1.00
31	Locate About this Book – Records [Secondary Navigation] [Repeat]	1.33
	Scenario 2: Discover Materials that Prove Statements	
32	Select Explore-Locations	1.00
33	Display items for Hutchinson County	1.17
34	Search within item [Repeat]	1.00
35	Examine hits	1.00
	Scenario 3: Discover Materials that Confirm a Hypothesis	
36	Search for maps	1.33

#	Task	Average Task Score
37	Select View this map [Secondary Navigation]	1.00
38	View larger size of map	1.80
39	Locate map's record	1.40
	Scenario 4: Discover Materials that Answer a Question	
40	Photograph search	1.33
41	Display all image sizes	1.60
42	Download extra large image	1.33