Our Users, Our Selves

Evaluating user experience on The Portal to Texas History

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Overview

Timeline

Is it UX or Usability?

Cast of Characters

Approach

Results

Conclusion
Timeline: 2010-2016
Timeline: Discovery

- **2009-2010**: IOGENE Project, the Interface Optimization Project for Genealogists, dedicated to improving the interface of the PTTH, resulted in a 2010 interface redesign
- **2014-2015**: Metadata usability inquiry (Krahmer)
- **2016**: New PTTH redesign opened
- **2016-2017**: PTTH UX study, conducted by a team of researchers (Krahmer, Mangum, Jansing, Lay). This study was approved by the University of North Texas Institutional Review Board.
Timeline: After 2016

The Portal to Texas History

Search 818,549 items from 346 partners across Texas.


A gateway to rare, historical, and primary source materials from or about Texas.
Past Research Takeaways

- The PTTH is complex and shouldn’t be tested as a whole system.
- Users providing emotional input (curiosity, frustration, confusion, enthusiasm) equals valuable user experience data.
- The PTTH should evolve constantly to meet needs of its increasingly diverse user population.
Is it UX or Usability?

- **Usability** = The ability of a given product to help a user with a specific task.
- **User Experience** = Examines how users’ feelings, ideas, and experience with a product can speak to future interactions with the product.

“[A Young Girl Carries a Stack of Books]”
[http://texashistory.unt.edu](http://texashistory.unt.edu)
Cast of Characters (Stakeholders)

- UNT Libraries’ Digital Libraries & External Relations employees
- UX Researchers from 2017: Ana Krahmer, Jake Mangum, Dianne Jansing, Robert Lay
- Portal users (genealogists, educators, lay historians, students)

“Barbara Jordan Addressing a Crowd”
https://texashistory.unt.edu/
About the Cast of Characters

- Stakeholders all have different approaches to using the Portal.
- This testing instance could only examine some of these different approaches.
- In a complex system, users don’t just take one simple path (enter a simple search term to answer a single question) (Albers, p. 6, 2015).
- On the PTTH, users aren’t visiting to find easy answers.
Methods to Cover Options

Because the Portal as a complex system offers many options for users to gather information, we had to employ multiple usability methods to understand how the 2016 PTTH interface affected users' experiences.

“Methods of adjusting signaling mirrors”
http://texashistory.unt.edu
Approach

Usability centers around three easy-to-remember concepts:

- MEELS (Memorability, Errors, Efficiency, Learnability, Satisfaction): represents the five points of data on which the usability of a given product is evaluated (Still, p. 10, 2012).
- See/Say/Do: triangulates our observations (see) with what users say and do (Still, 2012).
Approach: Usability+User Experience

- MEELS & DEAR tie into the PTTH testing through the test plan, the document in which the team arranged:
  - Goals
  - User Tasks
  - Data-gathering tools
Approach: Our Goals

1. Can users locate and understand all of the search areas in the site to help them narrow down to what they need? (Memorability, Efficiency, Errors, Learnability, Satisfaction)

2. (search inside, advanced search, search options when they're labelled as Advanced Search, search filters, search box at top of results list)

3. How does the size of images, fonts, and amount of scrolling on the Portal affect users’ ability to efficiently locate materials and satisfaction with the experience? (Errors, Efficiency, Satisfaction)

4. On individual object display, how are users manipulating and utilizing the objects to reach their intended information goal? (EELS)

5. Are people locating and using the Tour and the Social Media links? (LS)
<table>
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<tr>
<th>Task Order</th>
<th>Task Text</th>
<th>Desired Outcome</th>
</tr>
</thead>
</table>
| **Task 1** | From the Google page, please perform a search for “Abilene Daily Reporter,” and visit the first through third search results. | • First task should be easier, to boost users’ confidence  
• To examine how users move between a mainstream search engine directly into an issue of a newspaper on the Portal  
• This task also will load Chronicling America should the users visit that |

**Active Intervention Question, Task 1:** When you moved from the Google page and visited the search results, can you explain what kind of websites you thought you were visiting?

| Task 2 | Please visit the link that goes from Google to The Portal to Texas History. Search inside this issue for “Smith.” Take some time to look around until you feel you understand what is going on in the page. | • To observe how users orient themselves from a search engine to a single newspaper issue.  
• To observe what users choose to examine first inside a single issue. |

**Active Intervention Question 1, Task 2:** What was your thought process as you started to orient yourself on the page?

**Retrospective Recall Question 1, Task 2 (asked if users moved around inside the newspaper page or through the issue):** What were you looking for as you zoomed in and/or flipped through the pages?

| Task 3 | Staying on this website, click wherever you want to go next from this page. Explore the website. | • To observe where users will visit next  
• To see, via the eye-tracking data, where users look from one newspaper page to explore somewhere else |

**Active Intervention Question 1, Task 3:** What made you choose where you explored on the website?  
**Active Intervention Question 2, Task 3:** What were your first thoughts as you explored on the website?
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<tr>
<th>Task Order</th>
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| Task 4     | Click on the next browser tab, and perform an Advanced Search. Use the supplied prompt slip to determine which search terms you will enter into the fields. If you do not find any results from your first search, try substituting terms in different fields. When you feel you have finished this task, click “End Task,” and inform your facilitator that you have finished. | • Second-to-last task should be the most difficult.  
• To observe how users engage the Advanced Search page, responding especially to goal 1.  
• To observe how “librarian” language supports user needs.                                                                                          |

**Active Intervention Question 1, Task 4:** Can you explain how Advanced Search is different from other search methods you’ve seen in the past?

**Active Intervention Question 2, Task 4:** Can you explain to me what these fields mean?

<table>
<thead>
<tr>
<th>Task 5</th>
<th>Task 5: Locate the “Featured Partner,” and tell me who it is.</th>
<th>Desired Outcome</th>
</tr>
</thead>
</table>
|        |                                                                                                                                                                                                                                                                  | • Last task should be nearly as simple as the first task.  
• To observe how users engage with the scrollbar and graphics on the home page.                                                                                                                    |

**Active Intervention Question 1, Task 5:** What made “Featured Partner” stand out (or not stand out) to you?
Task 1 Target Object


One of 5,575 issues in the title: Abilene Daily Reporter available on this site.

Description
Daily newspaper from Abilene, Texas that includes local, state, and national news along with advertising.

Physical Description
twenty pages : ill. ; page 22 x 15 in. Digitized from 35 mm. microfilm.

Creation Information

Context
This newspaper is part of the collection entitled: Texas Digital Newspaper Program and two others and was provided by Abilene Public Library to The Portal to Texas History, a digital repository hosted by the UNT Libraries. It has been viewed 283 times, with 10 in the last month. More information about this issue can be viewed below.
Task 2

Search inside this issue for "Smith." Take some time to look around until you feel you understand what is going on in the page.

Eye-tracking heatmap, depicting where user’s eyes traveled while searching for “Smith.”
Task 2 Post-Task Questions

Retrospective Recall questions ask individual users about specific they performed during the task.

During task two, one user fully examined the newspaper page after entering the search term “Smith.”

When asked why, he replied, “At first, I was trying to get more information about this first ‘Smith’ result, but then I wanted to read the rest of the newspaper page to center myself on when it was published and what world events were happening that the Abilene newspaper was writing about for this specific issue.”
Task 3: Where did they go?
Task 4 Prompt

During the years 1910-1920 in a Denton County newspaper, an article describing Mrs. A. Groening’s participation as a witness during a trial was published. Using Advanced Search, please find the article.

- Longest time-on-task of all tasks.
- No users could correctly define all “Advanced Search” fields.
- Users who did succeed on the task did so with great difficulty.
Task 4 Target Object

Mrs. Groening’s Testimony.

Mrs. A. Groening introduced by the state, testified she lived one block from the Wimberly home and was their closest neighbor. On the afternoon of the 16th Mrs. Wimberly, she said, came to her house at about the time the show (circus, which showed near there) was out, apparently excited. Mrs. Wimberly told her she said, that Mr. Wimberly was drinking and had been trying to hurt her and she was afraid to stay at home. She (Mrs. Wimberly) stayed at the Groening home until nearly 7 o'clock. She talked something about killing herself, which Mrs. Groening undertook to dissuade her from, and said something about if “he killed himself they’d blame it on her.” (Witness talked rapidly and the stenographer had frequently to ask for time to catch up. The difficulty was increased by the fact that the words were somewhat broken.)

On cross-examination she said that Mrs. Wimberly had come to her house about the time she shot broke up. She stayed until near dark. The Groenings ate supper while she was there, but Mrs. Wimberly refused to eat. She was visibly excited or nervous and lay on the bed part of the time. Mrs. Wimberly was waiting for Mr. Wimberly to go to work (he worked at nights at the Denton mill). Mrs. Groening
Task 5 Target Object

From the home page in the next tab, locate the “Featured Partner” and tell us who it is.
Results

Time-on-task: Represents the time spent by each user on each task.

Eye-tracking: Shows where users’ eyes traveled as they sought information.

Keyboard & mouse movement during task: Represents where users clicked and moved around during each task.
Results

Time (Minutes) Per Task Across All Users

- Minimum
- Maximum
- Mean
- Standard Dev.
Results

Gazeplot showing the path a user’s eyes fixated just after reading moving from Google to the newspaper issue.

Eye-tracking heatmap from another user, showing where user's eye looked after locating the issue from Google.
Results: Mouse Movement

Areas (in pixels) of Mouse Movement Per Task

- Maximum
- Mean
- Standard Dev.
Results: Goal 1

1. Can users locate and understand all of the search areas in the site to help them narrow down to what they need?

A) The data showed that the answer to this is yes and no.
Results: Goal 2

1. Can users locate and understand all of the search areas in the site to help them narrow down to what they need?

A) The data showed that the answer to this is yes and no.
Results: Goal 3

1. Can users locate and understand all of the search areas in the site to help them narrow down to what they need?

A) The data showed that the answer to this is yes and no.
Results: Goal 4

1. Can users locate and understand all of the search areas in the site to help them narrow down to what they need?

A) The data showed that the answer to this is yes and no.
Results: Goal 5

1. Can users locate and understand all of the search areas in the site to help them narrow down to what they need?

A) The data showed that the answer to this is yes and no.
Conclusion: Future UXplorations

- Smaller, iterative testing: Fewer users, study the effectiveness of individual elements of Portal functionality.
- Low-fidelity testing: Less technology, fewer users, more direct & focused. (Less expensive!)
- Simpler goals: test according to 1-2 goals rather than 5.
- Using these results to create video tutorials for interacting with specific areas of the Portal, including Advanced Search. (TexTreasures Impact grant).
Conclusion: Recommendations

- Don’t go too big.
  - In terms of how many users to test, consider what you’re trying to learn.
    - Find big errors? Identify hiccups? Examine why certain patterns of behavior are appearing? The number of users you test will determine your actual finds (Faulkner, 2003, p. 382).
  - Narrow the scope of what you’re testing.
    - If your product is already having a lot of usability problems, look at small characteristics of the product (website?) and test those.
    - Don’t say you’ll test 100 users on everything. That won’t work--and you’ll go insane.
  - In terms of your research team, keep it to 4 or fewer researchers. 4 researchers helps with scheduling test participants and sessions.
    - Too large a team creates scheduling, communication, and data analysis problems.
Conclusion: Recommendations

- Be prepared for the unexpected—unscheduled participants; equipment failure; accessible testing structure.
- Don’t throw the baby out with the bathwater.
- Be prepared for findings you can’t do anything about—proprietary software, for example, has limited configuration options.
- Beware ugly baby syndrome.
- Sometimes, you won’t gather data that answers one or two of your goals. (See tour goal)
- Any data is good data.
Acknowledgements

This project did not take place with just one or two people. We would like to thank the rest of our usability testing team, who helped with all phases of this research: Dianne Jansing and Robert Lay.