Data-Driven Approach to IA Evaluation, Design, and Documentation

BARBORA BATOKOVA
UX STRATEGIST

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Hi, I’m Barbora.

... Nonprofit Communications Director
... Information Security Designer
... Information Designer
=> UX Strategist

• Worked on cybersecurity and digital forensics solutions for federal law enforcement agencies.
• Current projects include SEI’s website redesign and building a knowledge management platform called SEINet.
• Favorite activities include planning design research and facilitating sessions with project teams.
• Current goal is to increase SEI’s UX maturity and build a UX design team.
Goals

1. **PROCESS OVERVIEW**
   Provide a **very brief overview** of a **5-stage process** for creating usable IAs.

2. **HANDS-ON EXERCISES**
   Learn how to write a **tree testing** plan and analyze the data.

Good Example  Could be Improved  Bad Example
Why do IA projects?

To institute a logical, consistent user experience for two aspects of the design:

1. underlying structure (less visible)  
   (categories and levels, and how those categories relate to each other)
2. navigation controls (visible)
Design Process

How do you evaluate, design, and document an IA?

1. **Understand Current State**
   Stakeholder Map • Archetypes • Content Audit

2. **Evaluate Current State**
   Tree Testing • Think-Aloud Protocol • Heatmaps/Click Tracking

3. **Fill in the Gaps**
   Surveys • Expert Interviews • Search Log Analysis • Competitive Analysis

4. **Create New IA**
   Card Sorting • Butcher Paper IA • Task-Flow Diagrams

5. **Test and Refine New IA**
   Click Testing • Tree Testing • Think-Aloud Protocol
Design Process
What is the focus of this workshop?

1. Understand Current State
   Stakeholder Map • Archetypes • Content Audit

2. Evaluate Current State
   Tree Testing • Think-Aloud Protocol • Heatmaps/Click Tracking

3. Fill in the Gaps
   Surveys • Expert Interviews • Search Log Analysis • Competitive Analysis

4. Create New IA
   Card Sorting • Butcher Paper IA • Task-Flow Diagrams

5. Test and Refine New IA
   Click Testing • Tree Testing • Think-Aloud Protocol
1

Understand Current State
Understand Current State

Conduct design research to understand:

- Stakeholders
- User Needs & Goals
- Common Tasks
- Content
Stakeholder Map
Archetypes
<table>
<thead>
<tr>
<th>Date</th>
<th>Content</th>
<th>Description</th>
<th>Taxonomy</th>
<th>CA</th>
<th>ROT or Repurpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>05/08/14</td>
<td>Case Studies</td>
<td>The SEI provides useful information for acquisition support.</td>
<td>Acquisition Support</td>
<td>15</td>
<td>Redundant, Trivial</td>
</tr>
<tr>
<td>05/08/14</td>
<td>Our People</td>
<td>Technical staff members share project details.</td>
<td>Acquisition Support</td>
<td>15</td>
<td>Trivial</td>
</tr>
<tr>
<td>05/08/14</td>
<td>Getting Started</td>
<td>Acquisition Issues and SEI staff engage with federal departments.</td>
<td>Acquisition Support</td>
<td>15</td>
<td>Trivial</td>
</tr>
<tr>
<td>05/08/14</td>
<td>Additional Materials</td>
<td>An SEI engagement can consist of multiple activities.</td>
<td>Acquisition Support</td>
<td>15</td>
<td>Trivial</td>
</tr>
<tr>
<td>05/08/14</td>
<td>Research</td>
<td>The SEI helps acquisition programs achieve their goals.</td>
<td>Acquisition Support</td>
<td>15</td>
<td>Trivial</td>
</tr>
<tr>
<td>05/08/14</td>
<td>Pilot Projects</td>
<td>Reviews, and Evaluations for many organizations, the most useful.</td>
<td>Acquisition Support</td>
<td>15</td>
<td>Repurpose</td>
</tr>
<tr>
<td>05/08/14</td>
<td>Pilot Project: COTS Management</td>
<td>The SEI describes several of its acquisition programs.</td>
<td>Acquisition Support</td>
<td>15</td>
<td>Trivial, Outdated</td>
</tr>
<tr>
<td>05/08/14</td>
<td>Pilot Project: QAW/ATAM/Common</td>
<td>Whether you are working in a systems integrator role.</td>
<td>Acquisition Support</td>
<td>15</td>
<td>Redundant, Trivial, Outdated</td>
</tr>
<tr>
<td>05/08/14</td>
<td>Pilot Project: Options Analysis</td>
<td>The following is a list of technical requirements.</td>
<td>Acquisition Support</td>
<td>15</td>
<td>Trivial</td>
</tr>
<tr>
<td>05/08/14</td>
<td>Naval Undersea Warfare Center</td>
<td>Whether you are working in a systems integrator role.</td>
<td>Acquisition Support</td>
<td>15</td>
<td>Repurpose</td>
</tr>
<tr>
<td>05/08/14</td>
<td>Pilot Project</td>
<td>The SEI establishes an acquisition program.</td>
<td>Acquisition Support</td>
<td>15</td>
<td>Trivial, Outdated</td>
</tr>
<tr>
<td>05/08/14</td>
<td>Pilot Project: Strategic Technology Transition</td>
<td>In this case study, the SEI's acquisition program is described.</td>
<td>Acquisition Support</td>
<td>15</td>
<td>Outdated</td>
</tr>
<tr>
<td>05/08/14</td>
<td>Army&amp;39;s ASSIP Gains Traction</td>
<td>The SEI explores ten systems and acquisition support.</td>
<td>Acquisition Support</td>
<td>15</td>
<td>Outdated, Redundant</td>
</tr>
<tr>
<td>05/08/14</td>
<td>CLIP Program Employs Quality Attrib</td>
<td>The SEI supports CLIP by documenting quality attributes.</td>
<td>Acquisition Support</td>
<td>15</td>
<td>Outdated, Redundant</td>
</tr>
<tr>
<td>05/08/14</td>
<td>Global Positioning System Program</td>
<td>This case study reports the results of a global positioning system program.</td>
<td>Acquisition Support</td>
<td>15</td>
<td>Outdated</td>
</tr>
<tr>
<td>05/08/14</td>
<td>Acquisition Support Program</td>
<td>The SEI helps define requirements for acquisition support.</td>
<td>Acquisition Support</td>
<td>15</td>
<td>Redundant</td>
</tr>
<tr>
<td>05/08/14</td>
<td>Patterns of Failure: System Archetypes</td>
<td>The SEI explores ten systems and acquisition support.</td>
<td>Acquisition Support</td>
<td>15</td>
<td>Outdated</td>
</tr>
</tbody>
</table>
Evaluate Current State
Tree Testing
Why do Tree Testing?
To figure out which parts of the site tree work well and which don’t.

- Can people find the information they need?
- Is the information organized in a way that makes sense?
- Do the labels work?

Benefits
- Mimics how people find content on a site (vs. how they’d organize it).
- Simplified presentation allows participants to solely focus on the IA.
- Quantitative way of measurement.
- Faster than traditional card sorting.
Methodology

Considerations
Site Tree Size => No. of Tasks => No. of Tests

Participants
• Min 50 for 10 tasks
• Site Visitors / Recruitment Service

Software
• Treejack
• User Zoom
• C-Inspector
Example

Highlight reel from the evaluation stage of SEI website redesign.
Mini Use Case

Site Tree: 6 Levels of Hierarchy

1. CMU SEI CERT Division
2. Work Areas
3. Welcome to SEI
   - Acquisition Support
   - Cyber-Physical Systems
   - Measurement & Analysis
   - Performance & Dependability
   - Pervasive Mobile Computing
   - Process & Performance Improvement
   - Risk Management
   - Security & Survivability
   - Smart Grid
   - Software Architecture
   - Software Product Lines
   - System of Systems
   - Ultra-Large-Scale Systems
4. Home > Software Architecture > Tools & Methods
5. Tools & Methods
   - Establishing Requirements
   - Defining an Architecture
   - Evaluating the Architecture
     - Architecture Improvement Workshop
     - Architecture Tradeoff Analysis Method
   - System Architecture Tradeoff Analysis Method
   - System of Systems Architecture Evaluation Method
   - Active Reviews for Intermediate Design
6. 600+ items
## Organizational Focus

### Tasks (15)

Based on website objectives and archetypes.

<table>
<thead>
<tr>
<th>#</th>
<th>TASK</th>
<th>TASK COMPLETION</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.</td>
<td>Find out about what our organization does.</td>
<td>81%</td>
</tr>
<tr>
<td>4.</td>
<td>Get involved with us on a research project.</td>
<td>50%</td>
</tr>
<tr>
<td>5.</td>
<td>Fund a research and development (R&amp;D) project.</td>
<td>42%</td>
</tr>
<tr>
<td>7.</td>
<td>Find out about our upcoming conferences.</td>
<td>37%</td>
</tr>
<tr>
<td>2.</td>
<td>Find out about our latest research.</td>
<td>35%</td>
</tr>
<tr>
<td>15.</td>
<td>Find out about the history of the organization.</td>
<td>0%</td>
</tr>
</tbody>
</table>

### Overall Success Rate

- **37%** Overall Success Rate
- **75%** Usable
## Technical Focus

### Tasks (18)

Based on web objectives, archetypes, and technical staff input.

<table>
<thead>
<tr>
<th>#</th>
<th>TASK</th>
<th>TASK COMPLETION</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.</td>
<td>Download software packages and tools the SEI has created.</td>
<td>76%</td>
</tr>
<tr>
<td>10.</td>
<td>Find out how the SEI is helping to solve the nation’s cybersecurity challenges.</td>
<td>36%</td>
</tr>
<tr>
<td>17.</td>
<td>Learn more about SEI participation at approved targeted academic conferences.</td>
<td>26%</td>
</tr>
<tr>
<td>2.</td>
<td>Find out about the outreach and impact the SEI has had.</td>
<td>18%</td>
</tr>
<tr>
<td>1.</td>
<td>Find information on what high priority problems the DoD faces and how we help to solve them.</td>
<td>6%</td>
</tr>
<tr>
<td>4.</td>
<td>Find out how the SEI enables new or extended capabilities in existing military systems.</td>
<td>0%</td>
</tr>
</tbody>
</table>

### Overall Success Rate

20% Overall Success Rate  

75% Usable
## Exercise 1: Tree Testing Plan

<table>
<thead>
<tr>
<th>Exercise</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Where would you go to find out when the upcoming CTO Townhall takes place?</td>
</tr>
<tr>
<td>2</td>
<td>Where would you go to read SEI news and announcements?</td>
</tr>
<tr>
<td>3</td>
<td>Where would you go to find the latest document specifying SEI's technical strategic direction?</td>
</tr>
<tr>
<td>4</td>
<td>Where would you go to find out if you are entitled to a stipend for your phone?</td>
</tr>
<tr>
<td>5</td>
<td>Where would you go to learn about salary for an SEI position?</td>
</tr>
<tr>
<td>6</td>
<td>Where would you go to learn about the requirements for advancing from MTS-C to MTS-B?</td>
</tr>
<tr>
<td>7</td>
<td>Where would you go to download SEI letterhead?</td>
</tr>
<tr>
<td>8</td>
<td>Where would you go to learn about how you can report your effort (as a full-time employee)?</td>
</tr>
<tr>
<td>9</td>
<td>Where would you go to find out about SEI-specific rules regarding Information Technology?</td>
</tr>
<tr>
<td>10</td>
<td>Where would you go to find out which rooms you can use to hold a large meeting?</td>
</tr>
<tr>
<td>11</td>
<td>Where would you go to find out the documented organizational rules that have been vetted and approved by the SEI Executive Leadership Team?</td>
</tr>
<tr>
<td>12</td>
<td>Where would you go to download a form to bring a non-SEI employee to an SEI building?</td>
</tr>
<tr>
<td>13</td>
<td>Where would you go to find out how to do an expense report for your recent trip?</td>
</tr>
<tr>
<td>14</td>
<td>Where would you go to see the organizational structure of SEI?</td>
</tr>
<tr>
<td>15</td>
<td>Where would you go to find out whether someone has direct reports?</td>
</tr>
<tr>
<td>16</td>
<td>Where would you go to find a listing of SEI staff?</td>
</tr>
</tbody>
</table>
**Exercise**

Write a research plan to evaluate the IA of the Pittsburgh airport website.

⏰ 30 mins
**ARCHETYPE**

**Frequent Flyer**

**Description**
Flies frequently for business or personal travel. Comfortable with being at the airport. Likes to get stuff done at the airport in between flights.

**Behavior Anecdote**
While flying home for Christmas vacation, they plan on spending the time before boarding to do some last-minute shopping for their mom. They use the website on their phone to see what stores are available.

**Behaviors**
- Checks the website if flight is delayed.
- Checks the website to see TSA line status.
- Explores the shopping section to see what stores are available.
- Uses the website to see where a particular restaurant is located.
## Testing Plan

### Purpose  

**Participants**

### Methodology  

**Recruitment**

### Tasks

<table>
<thead>
<tr>
<th>#</th>
<th>TASK</th>
<th>CORRECT DESTINATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Testing Plan – Basics

Purpose*
• Establish a baseline? Evaluate new IA?
• What IA are you testing?

Methodology*
• Scope: Site Tree Size + Archetype(s) => No. of Tasks => No. of Tests
• Software

Participants*
• Min 50 for 10 tasks
• Stakeholder groups?
• Specific archetypes?

Recruitment*
• Site intercept?
• Recruitment service?
• Social media?
• Email?
• Rewards?

Risks
• Access to software
• Team availability
• Access to participants
• IRB approval
• Budget

*Absolute Minimum
Testing Plan – Tasks

Where would you go to ... ?

Base them on:

• Site objectives
• Archetypes
• Common tasks and user goals

Watch out for:

• Using the name of the correct destination in the question.
• Leading phrases (e.g., using “services” to guide through Services).
Instructions

1. Work with a partner.
2. Discuss the *Frequent Flyer* archetype.
4. Fill out the basics: purpose, methodology, participants, recruitment.
5. Come up with 5 tasks for the *Frequent Flyer* archetype.
Discussion

1. What did you fill out for purpose?
2. How did you specify the methodology?
3. Who are the participants?
4. How are you recruiting them?
5. What are some of the tasks you came up with?

What questions do you have?
Analyzing Results
For each question, create a Results Sheet that summarizes the findings.
Results Sheets

**Task Results**
Breakdown of success, directness, time taken, and the overall score calculated for each task.

**First Click**
Shows which branches were clicked first for each task, and what % of participants did so.

**Destinations**
Where did participants end up? / Where did they think they would find the answer to the question? The more there is, the more confused participants were.

**Destination Across All Tasks**
Number of participants that picked this item as the correct answer for multiple tasks. Each column corresponds to questions. If an item is picked as the correct answer for multiple questions, it means the item label is vague and applies to too many things.

**Pie Tree**
Shows which way participants went at each junction in the site tree and what they selected as their final answers. Useful for determining the breakdowns.

**Implications**
What does this mean? What are the takeaways? How can we improve the site tree based on these results?

**Overall Success Rate**
How many people completed the task successfully? 75% above is acceptable.

**Direct Failure**
If a participant goes directly to a wrong answer, without ever clicking back up the tree. When someone goes directly to the wrong information, it suggests they have confidence they’re on the right track.

**Indirect Failure**
If a participant has gone back through the tree at least once before they’ve selected the wrong answer. When a task receives high numbers of indirect fails, it gives a clear message that the labeling and organization of that part of your tree is confusing people.

**Indirect Success**
If a participant has gone back through the tree at least once before they’ve selected the correct answer. This means that organization and labeling can be improved.

**Direct Success**
If a participant goes directly to the correct answer.
Task Results

Breakdown of success, directness, time taken, and the overall score calculated for each task.

- Success
  - Direct: 36
  - Indirect: 11

- Fail
  - Direct: 27
  - Indirect: 47

- Skip
  - Direct: 0
  - Indirect: 0

Overall:
- Success: 50%
- Fail: 50%
- Skip: 0%

Success: 50%
Directness: 67%
Time Taken: 16.56 sec

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Data-Driven Approach to IA Evaluation, Design, and Documentation  • Barbora Batokova

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First Click

Shows which branches were clicked first for each task, and what percentage of participants did so.

<table>
<thead>
<tr>
<th>LABEL</th>
<th>VISITED FIRST</th>
<th>VISITED DURING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work Areas</td>
<td>9%</td>
<td>11%</td>
</tr>
<tr>
<td>Engage with Us</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>Products and Services</td>
<td>8%</td>
<td>12%</td>
</tr>
<tr>
<td>Library</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>News</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Careers</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>About Us</td>
<td><strong>80%</strong></td>
<td><strong>89%</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LABEL</th>
<th>VISITED FIRST</th>
<th>VISITED DURING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work Areas</td>
<td><strong>20%</strong></td>
<td>32%</td>
</tr>
<tr>
<td>Engage with Us</td>
<td>13%</td>
<td>26%</td>
</tr>
<tr>
<td>Products and Services</td>
<td>14%</td>
<td>28%</td>
</tr>
<tr>
<td>Library</td>
<td>25%</td>
<td>41%</td>
</tr>
<tr>
<td>News</td>
<td>21%</td>
<td>33%</td>
</tr>
<tr>
<td>Careers</td>
<td>1%</td>
<td>3%</td>
</tr>
<tr>
<td>About Us</td>
<td>4%</td>
<td>15%</td>
</tr>
</tbody>
</table>
Pie Tree

Shows which way participants went at each junction in the site tree and what they selected as their final answers.
2: EVALUATE CURRENT STATE

Paths

Direct Failure

Indirect Skip

Indirect Failure

Indirect Success

Direct Success
## Destinations

Where did participants end up?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Testing Centers</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Calendar of Events</strong></td>
<td>1</td>
<td>1</td>
<td>36</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Tools &amp; Methods</strong></td>
<td>1</td>
<td>1</td>
<td>6</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>6</td>
<td>4</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Research</strong></td>
<td>8</td>
<td>33</td>
<td>7</td>
<td>14</td>
<td>19</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>10</td>
<td>13</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Consulting</strong></td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>27</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Library</strong></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SEI Digital Library</strong></td>
<td>23</td>
<td>4</td>
<td>39</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>51</td>
<td>2</td>
<td>1</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SEI Podcast Series</strong></td>
<td></td>
<td>5</td>
<td></td>
<td>66</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SEI Webinar Series</strong></td>
<td>1</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
Implications

What does this mean? What are the takeaways? How do we fix it?

- Very low success rate for something so basic as a calendar of organizational events.
- High #s in 3 top-level items indicates MUST!
- High levels across 4 areas indicates further hesitation on where to locate that information.
- About Us -> SEL Orientation
  - 39
- About Us -> Our Organization
  - 34
- Almost even split between correct answers suggests that these labels carry the same information content. => NEED TO BE CONSOLIDATED
- 80% first click on About Us => VERY GOOD top-level label
- Events are not easily understood, as a product or service from a customer viewpoint.
Exercise 2

Tree Testing
Analysis
Exercise

Analyze tree testing results. What are the implications? Do you have any recommendations for improving Pittsburgh airport’s website?

⏰ 30 mins
Instructions

1. Find your partner: match question numbers printed on the cover of your handout folder.
2. Create results sheets for the questions you have in your folder.
3. Discuss results together, annotating the sheets with implications on post-its and highlighting problematic or successful areas.
Discussion

Each group presents results for one question.

1. What do the results mean?
2. What are the takeaways?
3. How do we fix the identified problems?

What questions do you have?
Evaluate Current State (Continued)
Think-Aloud Protocol
Heatmaps & Click Tracking
3 Fill in the Gaps
Expert Interviews
Search Log Analysis
Competitive Analysis
Create New IA
Card Sorting
Butcher Paper IA
Task Flow Diagrams
Test & Refine
New IA
Click Testing
Example

Proposed IA

About  Research  Capabilities  Education  Publications  News
Example

Proposed IA + Heatmap

Compare: Original First Click

<table>
<thead>
<tr>
<th>Category</th>
<th>Clicks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work Areas</td>
<td>3%</td>
</tr>
<tr>
<td>Engage with Us</td>
<td>36%</td>
</tr>
<tr>
<td>Products and Services</td>
<td>16%</td>
</tr>
<tr>
<td>Library</td>
<td>1%</td>
</tr>
<tr>
<td><strong>News</strong></td>
<td><strong>33%</strong></td>
</tr>
<tr>
<td>Careers</td>
<td>1%</td>
</tr>
<tr>
<td>About Us</td>
<td>9%</td>
</tr>
</tbody>
</table>
Tree Testing
SEI UX Tools
• Crazy Egg
• Optimal Workshop
• Piwik
• Qualtrics
• UsabilityHub
• UserTesting.com

Other UX Tools
• ClickHeat
• ClickTale
• Loop11
• Optimizely
• SurveyMonkey
• UsabilityTools
• UserZoom
Books, Reports & Online Resources

- **Boxes and Arrows**: http://boxesandarrows.com/tree-testing/
- **Communicating Design**, Dan M. Brown
- **Information Architecture**, Louis Rosenfeld, Peter Morville & Jorge Arango
- **Nielsen Norman Group**: Intranet Information Architecture Design Methods and Case Studies 2nd Edition
- **Optimal Workshop Blog**: http://www.optimalworkshop.com/blog
- **TED Archetypes**: https://hello.ted.com/2014/02/13/how-user-archetypes-lead-to-design-decisions/
- **Universal Methods of Design**, Bella Martin and Bruce Hanington
- **Web Usability**: http://webusability.com/firstclick-usability-testing/
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Thanks!
Keep in touch!

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