

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

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WORLD IA DAY
PITTSBURGH, PA • 2/24/2018

🐦 [@WIAD_PGH](https://twitter.com/WIAD_PGH)

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

Information Architecture

Design discipline focused on helping people **find information** and **understand** it.

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

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Test and Refine New IA

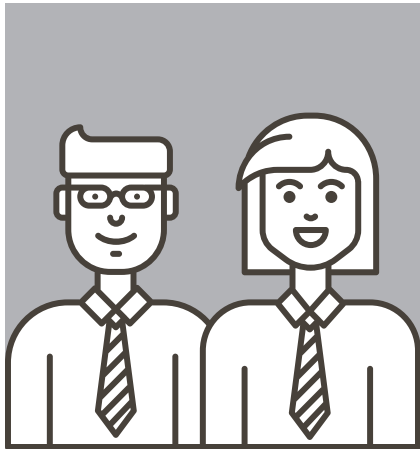
Click Testing • Tree Testing • Think-Aloud Protocol

1

Understand Current State

Understand Current State

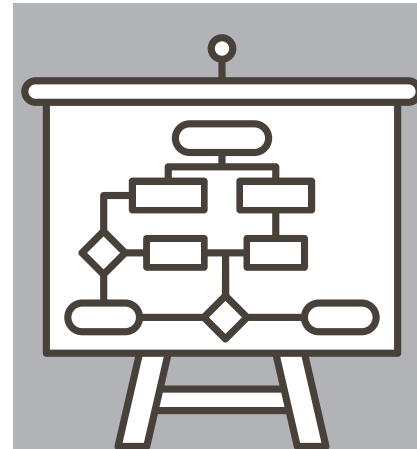
Conduct design research to understand:



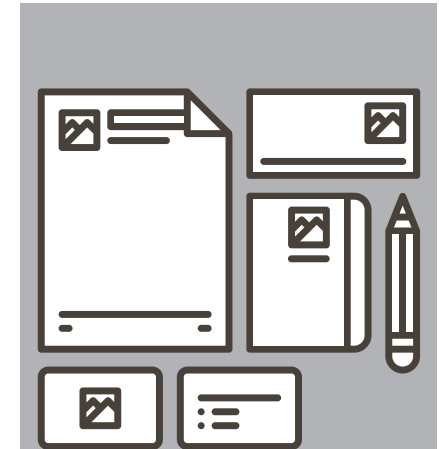
Stakeholders



**User Needs
& Goals**



Common Tasks



Content

Stakeholder Map

WORK
↑ GOVERNING THE WORK

C-Level

Tech Director

Business Manager
Tech Manager
Program Manager
Portfolio Manager
HR Staff
Ethics Staff
Course Staff
Legal Staff

Government Liaison

Team Lead

INFO
← SPECIFIC VIEWS

→ SUMMARY OF WORK

Project Lead
Scrum Master

Technical Staff
Researcher
Project Team Member

Student Intern
Independent Contractor

Financial Professional
Business Analyst
Data Analysts
Technical Writers
Training Staff

IT Help Desk
Security Staff
Purchasing Agent

Mail Room Staff
Facilities Staff
Security Guard

Strategic Analyst

Events Staff
PR & Marketing

Internal Educators
Librarians

↓ EXECUTING THE WORK

Admin Support Staff

Why do a Stakeholder Map?

To determine key constituents of a project and their relationships.

- *Who are the primary users? Decision makers?*
- *Who is affected? Who benefits?*
- *How are these groups of people related?*
- *What is the hierarchy?*

Benefits

- Visually organizes all stakeholders.
- Determines key relationships.
- Sets the stage for all design research activities.
- Helps you determine participants for testing.

Archetypes



Why do Archetypes?

To understand stakeholders based on their behaviors.

- *What's the primary focus and behavior of someone using our website?*
- *In what environment do these actions take place?*
- *What is their end goal?*

Benefits

- Modeled around a behavioral perspective => more useful than personas.
- Name is based on task-centric or identity-centric models => easier to keep behavior at the forefront.
- Behaviors directly lead to tasks that can be tested.

Example



Description

Either familiar with the SEI, CERT, or CMU and is looking for a career at the organization or is doing a general job search and finds positions via an external website.

Behavior Anecdote

Uses the job listings page to search for a particular position.

Behaviors

- Explores the website to learn about us.
- Reads job descriptions.
- Gets a list of available positions.
- Looks for benefits and corporate information.

Content Audit

			D	E	G	R
			DESCRIPTION	Taxonomy	CAT	ROT or Repurpos
			The SEI provides useful information	Acquisition Support	15	Redundant, Trivial
			Technical staff members share	Acquisition Support	15	Trivial
				Acquisition Support	15	Trivial
		Acquisition Issues and	SEI staff engage with federal de	Acquisition Support	15	Repurpose
			An SEI engagement can consist	Acquisition Support	15	Repurpose
		ing	The SEI helps acquisition progr	Acquisition Support	15	Repurpose
		Reviews, and Evaluat	For many organizations, the mo	Acquisition Support	15	Repurpose
			The SEI describes several of its	Acquisition Support	15	Trivial, Outdated
		05/08/14 Case Studies	The following is a list of technica	Risk and Opportunity	15	Redundant, Trivial, Out
		05/08/14 Our People	Whether you are working in a sy	Risk and Opportunity	15	Repurpose
		05/08/14 Getting Started	Additional Materials	Risk and Opportunity	15	Trivial
		05/08/14 Additional Materials	Research currently in Systemic	Risk and Opportunity	15	Redundant
		05/08/14 Research	The SEI establishes an acquisit	Acquisition Support	15	Trivial, Outdated
		05/08/14 Pilot Projects	The SEI's Acquisition Proc	Acquisition Support	15	Trivial, Outdated
		05/08/14 Pilot Project: COTS Management Pla	This pilot project is developing s	Acquisition Support	15	Trivial, Outdated
		05/08/14 Pilot Project: QAW/ATAM/Common L	ASP documents its pilot project	Acquisition Support	15	Trivial, Outdated
		05/08/14 Pilot Project: Options Analysis for Re	The SEI's Acquisition Proc	Acquisition Support	15	Trivial, Outdated
		05/08/14 Pilot Project: Options Analysis for Re	The SEI describes a particularly	Acquisition Support	15	Trivial, Outdated
		05/08/14 Naval Undersea Warfare Center (NU	Pilot Project	Acquisition Support	15	Outdated
		05/08/14 Pilot Project	Pilot Project:	Acquisition Support	15	Outdated
		05/08/14 Pilot Project:	In this case study, the SEI's	Acquisition Support	15	Outdated
		05/08/14 Strategic Technology Transition: A N	ASSIP helps improve the U.S. A	Acquisition Support	15	Outdated, Redundant
		05/08/14 Army's ASSIP Gains Traction w	The SEI supports CLIP by cond	Acquisition Support	15	Outdated, Redundant
		05/08/14 CLIP Program Employs Quality Attrib	This case study reports the resu	Acquisition Support	15	Outdated
		05/08/14 Global Positioning System Program (The SEI helps define requireme	Acquisition Support	15	Redundant
		05/08/14 Acquisition Support Program Helps A	The SEI explores ten systems a	Acquisition Support	15	Outdated
		05/08/14 Patterns of Failure: System Archetyp				

Why do a Content Audit?

To understand what content you have and determine what it should be.

- *How much content do we have?*
- *What types of content do we have?*
- *Is it redundant, outdated, or trivial (ROT)?*
- *Who owns and maintains this content?*

Benefits

- Both qualitative and quantitative.
- The only way to really know your content.
- Can be used to help define content governance.
- Necessary if you want to be able to design an IA.

2

Evaluate Current State

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

Task 1 of 10 [Skip this task](#)

Where would you find out how the SEI is shaping the research agenda for managing technical debt?

Home

Products and Services

Research I'd find it here

Considerations

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

Participants

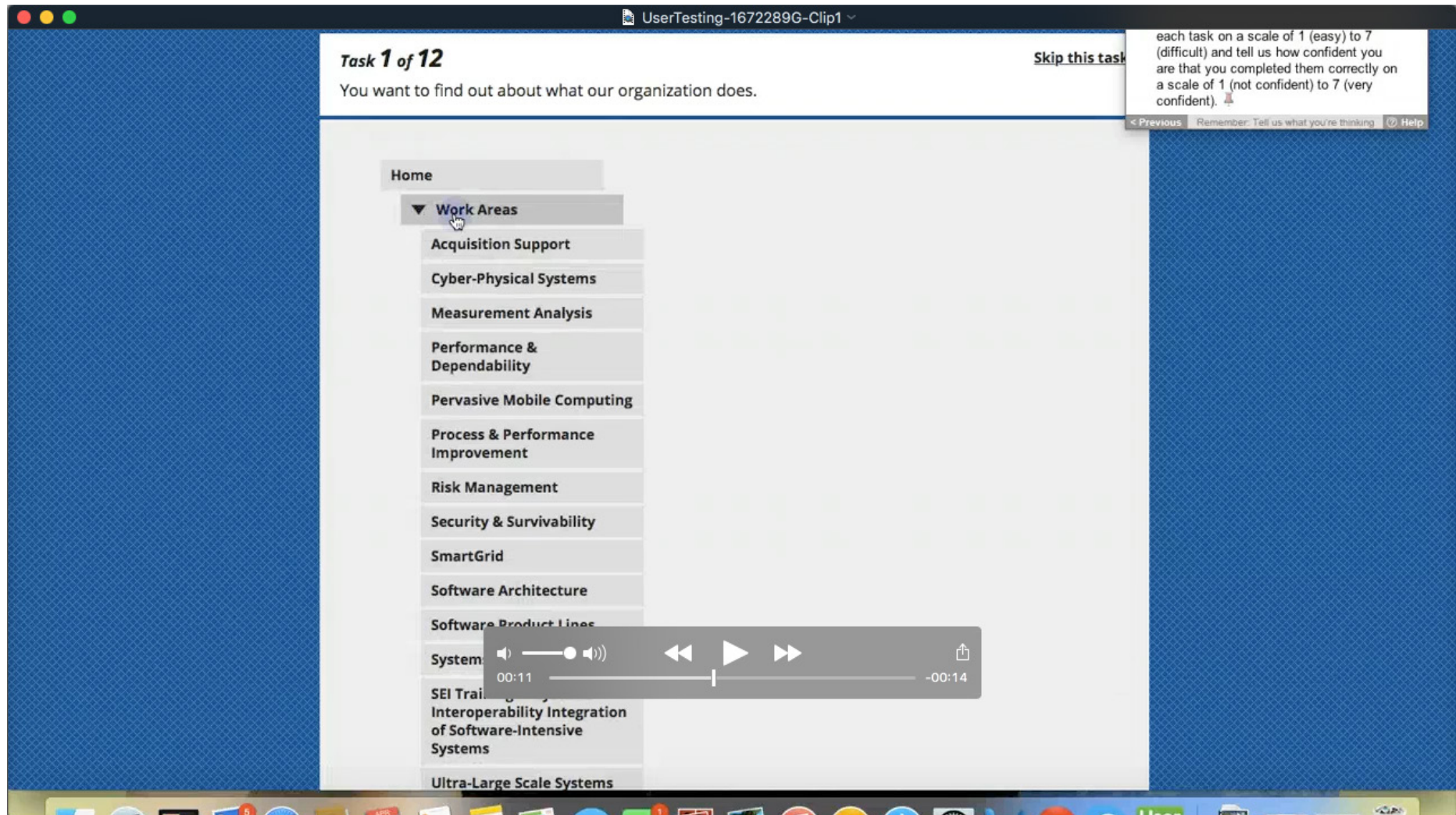
- Min 50 for 10 tasks
- Site Visitors / Recruitment Service

Software

- Treejack
- User Zoom
- C-Inspector

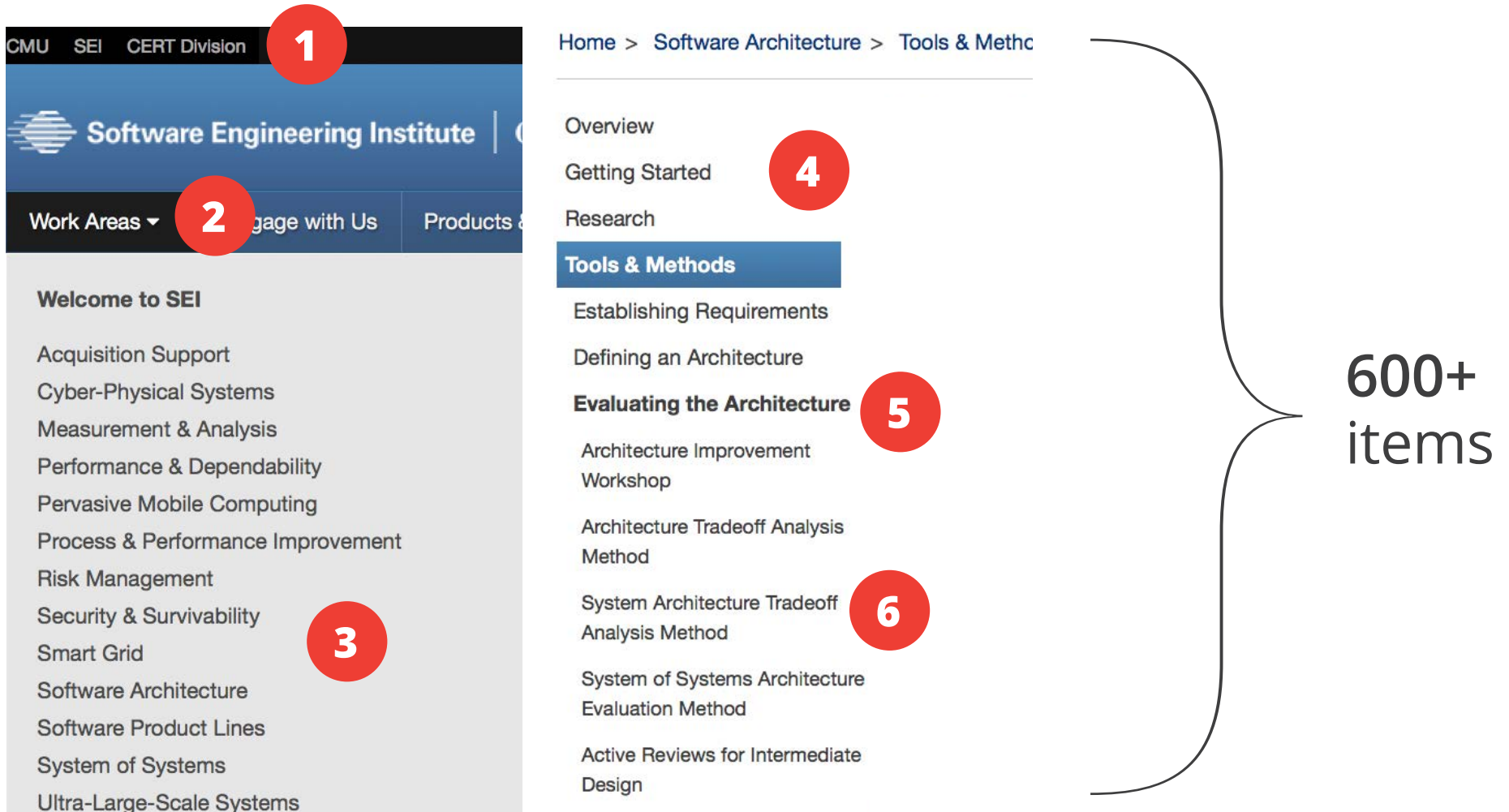
Example

Highlight reel from the evaluation stage of SEI website redesign.



Mini Use Case

Site Tree: 6 Levels of Hierarchy



Organizational Focus

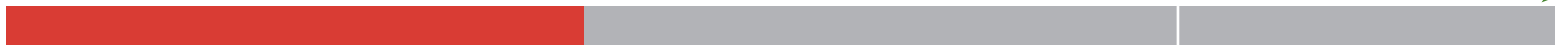
Tasks (15)

Based on website objectives and archetypes.

#	TASK	TASK COMPLETION	
9.	Find out about what our organization does .	81%	■ Good 75% and above
4.	Get involved with us on a research project .	50%	■ Poor 50–74%
5.	Fund a research and development (R&D) project .	42%	■ Very Poor 0–49%
7.	Find out about our upcoming conferences .	37%	
2.	Find out about our latest research .	35%	
15.	Find out about the history of the organization .	0%	

37% Overall Success Rate

75% Usable



Technical Focus

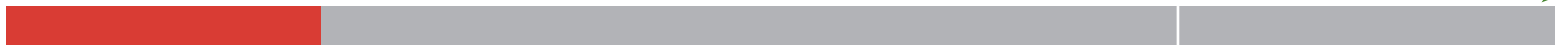
Tasks (18)

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

#	TASK	TASK COMPLETION	
3.	Download software packages and tools the SEI has created.	76%	■ Good 75% and above
10.	Find out how the SEI is helping to solve the nation's cybersecurity challenges .	36%	■ Poor 50–74%
17.	Learn more about SEI participation at approved targeted academic conferences .	26%	■ Very Poor 0–49%
2.	Find out about the outreach and impact the SEI has had.	18%	
1.	Find information on what high priority problems the DoD faces and how we help to solve them.	6%	
4.	Find out how the SEI enables new or extended capabilities in existing military systems .	0%	

20% Overall Success Rate

75% Usable



Exercise 1

Tree Testing Plan

1	Where would you go to find out when the upcoming CTO Townhall takes place?	ABOUT SEI	News & Events	Calenda
2	Where would you go to read SEI news and announcements?	ABOUT SEI	News & Events	News
3	Where would you go to find the latest document specifying SEI's technical strategic direction?	BUSINESS RESOURCES	Governance	Grey Bo
4	Where would you go to find out how to request a new laptop?	BUSINESS RESOURCES	Governance	Internal
5	Where would you go to find out how to request a new smartphone?	BUSINESS RESOURCES	Governance	Quarterl
6	Where would you go to find out how to request a new tablet?	RESEARCH & PROJECTS	/	Research
7	Where would you go to find out how to request a new line-tended work?	RESEARCH & PROJECTS	/	Line & L
8	Where would you go to find out how to request a stipend for your phone?	BENEFITS & CAREER	Benefits	Commun
9	Where would you go to find out how to recommend a friend for an SEI position?	BENEFITS & CAREER	Staffing & Recruiting	Employe
10	Where would you go to learn about the requirements for advancing from MTS-C to MTS-B?	BENEFITS & CAREER	Career & Performance	Promoti
11	Where would you go to download SEI letterhead?	BUSINESS RESOURCES	Branding & Templates	Docume
12	Where would you go to learn about how you can report your effort (as a full-time employee)?	WORKPLACE SERVICES	Pay & Timekeeping	Effort R
13	Where would you go to find out about SEI-specific rules regarding Information Technology?	WORKPLACE SERVICES	Information Technology	IT Pract
14	Where would you go to find out which rooms you can use to hold a large meeting?	WORKPLACE SERVICES	Facilities	Confere
15	Where would you go to find out about the documented organizational rules that have been vetted and approved by the SEI Executive Leadership Team?	BUSINESS RESOURCES	Legal	Standar
16	Where would you go to download a form to bring a non-SEI employee to an SEI building?	WORKPLACE SERVICES	Security	Visitor R
17	Where would you go to find out how to do an expense report for your recent trip?	WORKPLACE SERVICES	Travel & Expenses	Travel R
18	Where would you go to see the organizational structure of SEI?	PEOPLE & TEAMS	Organizational Charts	Org Stru
19	Where would you go to find out whether someone has direct reports?	PEOPLE & TEAMS	Organizational Charts	Reportin
20	Where would you go to find a listing of SEI staff?	PEOPLE & TEAMS	Staff Information	Staff Dir

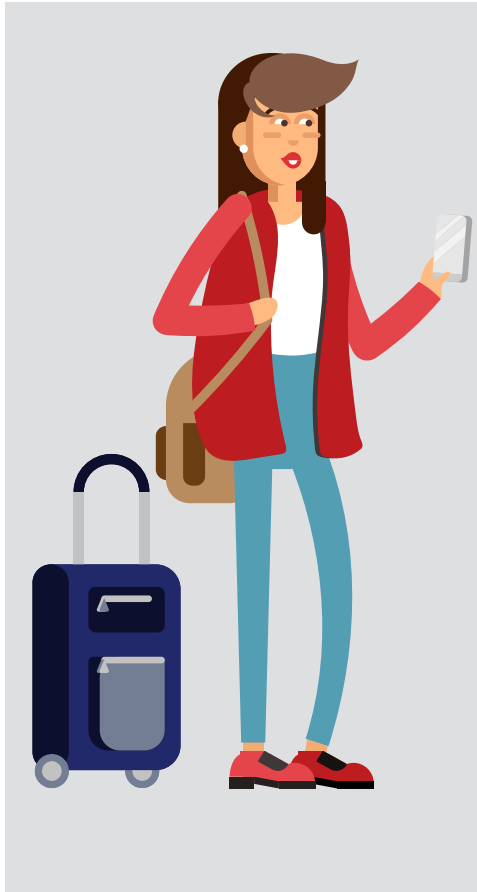
Exercise

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



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.

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Created by Barbora Batokova • UX Strategist, CMU Software Engineering Institute • bbatokova@sei.cmu.edu

TREE TESTING

Testing Plan

Purpose

Participants

Methodology

Recruitment

Tasks

TASK

CORRECT DESTINATION

1

2

3

4

5

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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.
3. Explore screenshots of www.flypittsburgh.com.
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?

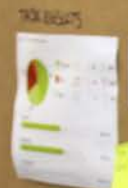


⑧ Where would you go to listen to the latest podcast?

⑨ You want to find out what our organization does.

66%

Overall Success Rate
81%



FIRST CLICK

Category	Value
Success	75
Failure	25

PATHS
Direct Failure

Path	Count
Path 1	10
Path 2	15
Path 3	20
Path 4	25



FIRST CLICK

Category	Value
Success	75
Failure	25

PATHS
Failure

PATHS
Failure

Path	Count
Path 1	10
Path 2	15
Path 3	20
Path 4	25

Wording in the second level suggests MUSH in that level => Simplify

IMPLICATIONS

IMPLICATIONS
Just level of ABUT is made to simplify

80% first click on about us -> VERY GOOD top level site!

DESTINATIONS

39 34

Wording in the 2nd level of navigation is confusing

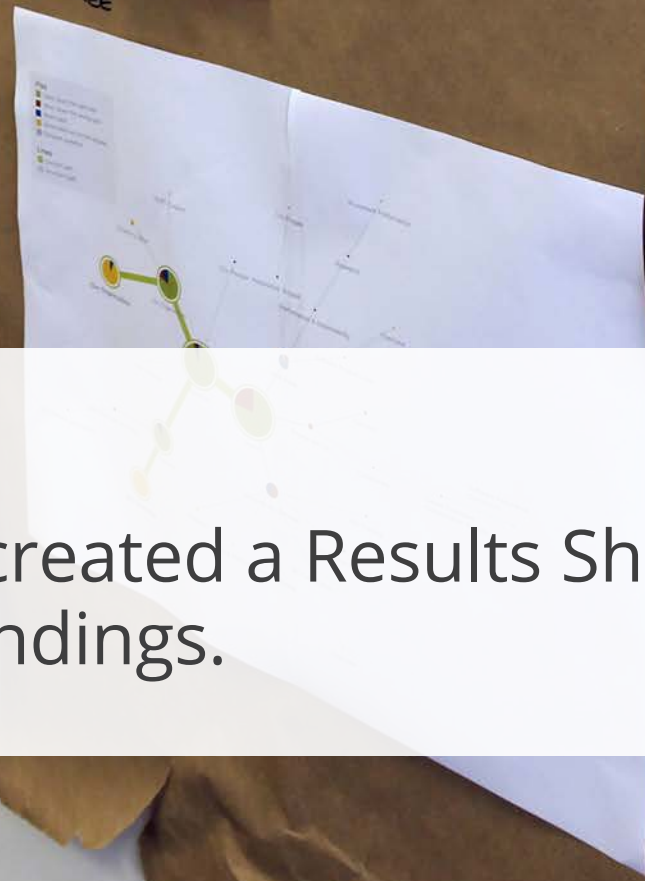
Direct Success

Direct Success

Path	Count
Path 1	10
Path 2	15
Path 3	20
Path 4	25

Indirect success paths again contain MUSH on the 2nd level of navigation. Simplify

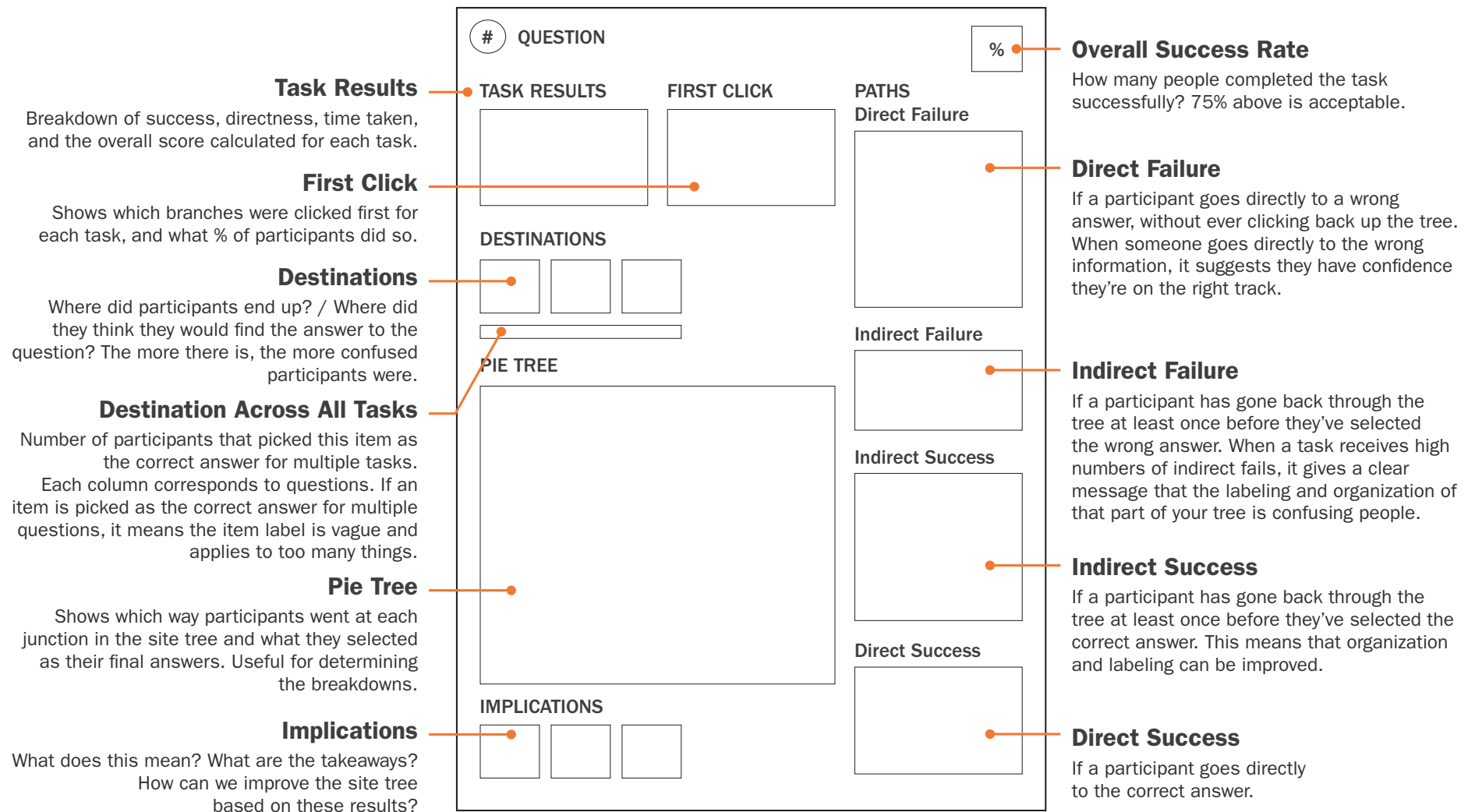
PIE TREE



Analyzing Results

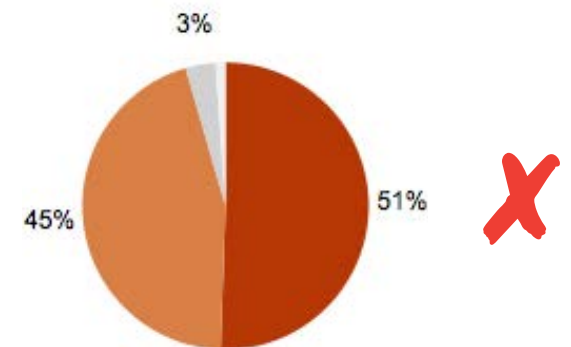
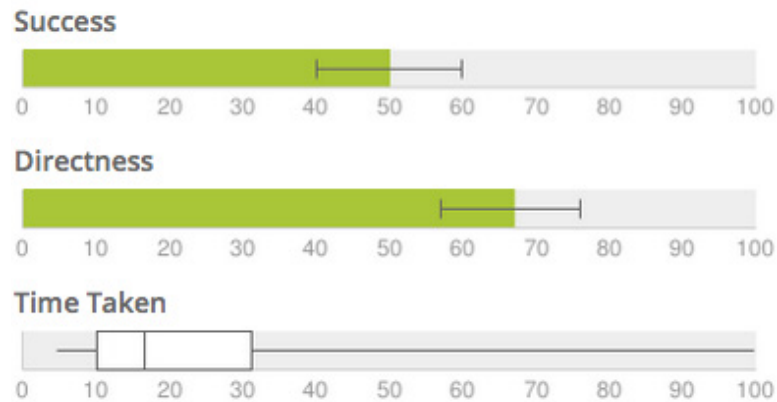
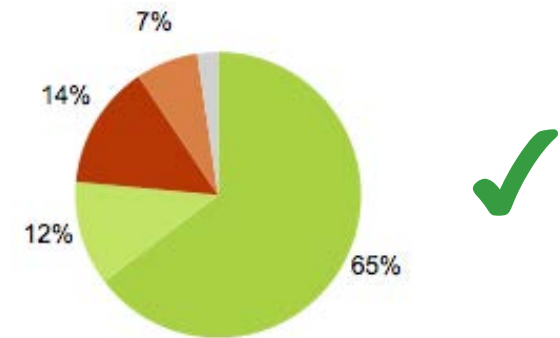
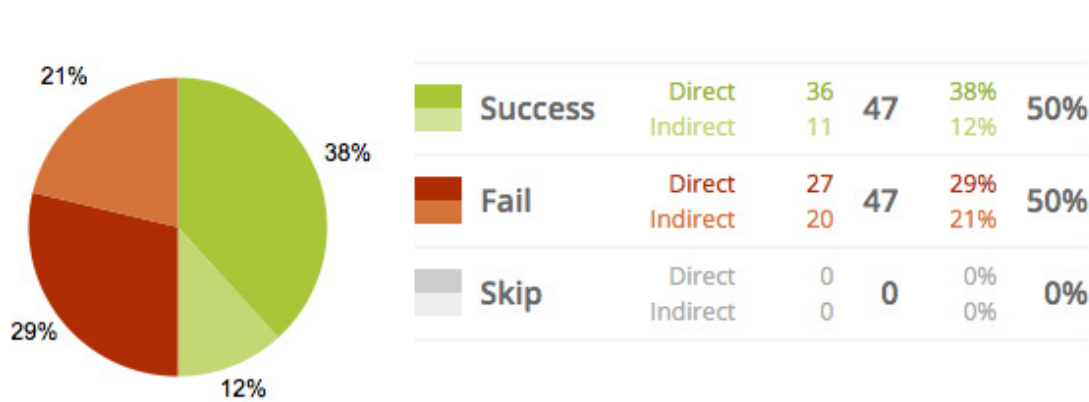
For each question, we created a Results Sheet that summarized the findings.

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 percentage of participants did so.



LABEL	VISITED FIRST	VISITED DURING
Work Areas	9%	11%
Engage with Us	3%	3%
Products and Services	8%	12%
Library	0%	0%
News	0%	0%
Careers	0%	0%
About Us	80%	89%



LABEL	VISITED FIRST	VISITED DURING
Work Areas	20%	32%
Engage with Us	13%	28%
Products and Services	14%	28%
Library	25%	41%
News	21%	33%
Careers	1%	3%
About Us	4%	15%

Paths


Direct Failure

■ 10 > News > Overview > SEI Article 


Indirect Skip

■ 174 > Products and Services > Consulting < Home > Library < Home > Work Areas < Home > Engage with Us < Home > About Us < Home and Services < Home > Engage with Us < Home > Work Areas > Acquisition Support < Work Areas < Home > News < Home > Engage Home > Library > SEI Digital Library < Home > About Us < Home > Careers < Home > News < Home > Library < Home > Products and Tools & Methods < Home > Work Areas > *Skipped* 


Indirect Failure

■ 122 > Work Areas > Risk Management > Consulting < Risk Management > Our People < Risk Management < Work Areas > Consult > Consult < Engage with Us < Home > Work Areas > Risk Management > Consulting < Risk Management < Home > Engage with Us > Consult > Consult < Consult < Engage with Us < Home > Products and Services > R Products and Services < Home > Work Areas < Home > Work Areas < Home > Work Areas > Risk Management > Risk Management > Consulting < Risk Management > Consulting 

Indirect Success

■ 63 > Engage with Us > Connect < Engage with Us > Consult > Solutions < Engage with Us > Develop < Engage with Us < Home > Products and Services > Consulting < Products and Services > SEI Partner Network < Products and Services > Tools & Methods < Products and Services < Home > Engage with Us < Home > Work Areas < Home > Engage with Us > Consult > Solutions < Engage with Us > Connect < Engage with Us < Home > Careers < Home > Products and Services > Tools & Methods < Home > Engage with Us > Consult > Consult 

Direct Success

■ 90 > Library > SEI Digital Library 

Destinations

Where did participants end up?

		TASK #														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	Testing Centers			1			2									
✓	Calendar of Events					1	1	36	2	2			1	5		
	Tools & Methods	1	1	6	2		1		2	1		6		4	10	
✗	Research	8	33	7	14	19	3	1		2	10	13		1	1	
	Consulting	2			1	2	1				3	2		1	27	
	Library															
	SEI Digital Library	23	4	39	1	3			2			51		2	1	6
	SEI Podcast Series			5					66							
	SEI Webinar Series	1		5		1	1	1				1		4		

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.

irect	12	36	12%	37%
irect	24		25%	
irect	39		40%	62%
irect	21	60	22%	
irect	0	1	0%	1%
irect	1		1%	

High #s in 3 top-level items indicates MUST.

High levels across 4 areas indicates further hesitation on where to locate that information.

	16%	40%
	1%	3%
	33%	49%
	1%	3%
	9%	23%

80% first click on about us => VERY GOOD top level label

	80%	89%
--	-----	-----

About Us -> SEI Overview -> 39

About Us -> Our organization 34

Almost even split between correct answers suggests that these labels carry the same information sent. => NEED TO BE CONSOLIDATED

Events Are not easily understood AS A product or service from a customer viewpoint

Develop

Calendar of

Services

course

Visualizing the Results

Global > Main > Drop-Down Menus ...

■ Ambiguous Meaning ■ Problematic Placement

CMU	SEI	CERT DIVISION	DIGITAL LIBRARY	INSIGHTS									
WORK AREAS		ENGAGE WITH US		PRODUCTS & SERVICES		LIBRARY		NEWS		CAREERS		ABOUT US	
ACQUISITION SUPPORT		OVERVIEW		SEI TRAINING		SEI DIGITAL LIBRARY		NEWS STORIES		OVERVIEW		SEI OVERVIEW	
<ul style="list-style-type: none"> Overview Getting Started <li style="background-color: red;">Research Tools & Methods Consulting Our People 		<ul style="list-style-type: none"> CONNECT CONSULT Solutions <li style="background-color: red;">Cases SPONSOR <li style="background-color: red;">Case Examples: R&D Results COLLABORATE <li style="background-color: red;">Case Examples: Collaboration Results DEVELOP 		<ul style="list-style-type: none"> Overview Find a Course Classroom Onsite Training E-Learning Registration FAQ Certificates 		<ul style="list-style-type: none"> SEI PODCAST SERIES SEI WEBINAR SERIES 		<ul style="list-style-type: none"> ANNOUNCEMENTS PRESS RELEASES MEDIA COVERAGE SEI BULLETIN 		<ul style="list-style-type: none"> <li style="background-color: red;">AFFILIATE PROGRAM 		<ul style="list-style-type: none"> DIRECTOR'S MESSAGE OUR ORGANIZATION Director's Office CERT Division Emerging Technology Center Software Solutions Division 	
CYBER-PHYSICAL SYSTEMS				SEI PARTNER NETWORK								OUR PEOPLE	
<ul style="list-style-type: none"> Overview <li style="background-color: red;">Research Our People 				<ul style="list-style-type: none"> CALENDAR OF EVENTS TOOLS & METHODS <li style="background-color: red;">RESEARCH CONSULTING 								<ul style="list-style-type: none"> Sponsoring and Oversight Leadership Team SEI Fellows YEAR IN REVIEW 	
MEASUREMENT & ANALYSIS													
<ul style="list-style-type: none"> Overview Getting Started <li style="background-color: red;">Research Tools & Methods Consulting Case Studies 													

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?



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?

Think-Aloud Protocol



Why do a Think-Aloud Protocol?

To learn about the underlying reasons why some parts of the structure don't work.

- *Why did they choose to go down this path?*
- *Why did they go back?*
- *What was it about the label that was confusing?*
- *Why aren't they confident this is the correct answer?*

Benefits

- Get qualitative data to help with interpreting tree-testing results.
- Small participant pool needed to get comprehensive results.
- Obtain powerful quotes to illustrate a problem.
- Produce highlight reels to effectively share results with stakeholders.

Heatmaps & Click Tracking

1.1% #6

16.7% #1

0.5%

MENT
#8

AFFORDABILITY
4.0% #2

Started

SCHEDULE NOW ▶

Methodology

Software

crazyegg, ClickTale, ClickHeat, etc.



3

Fill in the Gaps

Survey



Why do a Survey?

To gather types of information that are currently not represented on the site.

- *What important content is missing?*
- *What content areas are obsolete and should be archived?*
- *Are our clients looking for information that we don't have online?*

Benefits

- Quick way to gather a lot of useful data.
- Involve the entire organization and clients in the design process.

Expert Interviews



Why do Expert Interviews?

To identify business needs not being met within the structure.

- *Where is the organization headed and how does the website fit in?*
- *How can the website IA help express the direction of the organization?*

Benefits

- Cheap in terms of effort and budget.
- Quick way to get expert information directly from the source.
- Ensure business needs are being met.

Search Log Analysis




Why do a Search Log Analysis?

To determine what people are searching for and therefore can't find easily.

- *What are the top search terms?*
- *Can some of the frequent searches be eliminated by including those items in the IA?*

Benefits

- Provides you with ideas on how to label items.
- Gives you quantitative data in a heavily qualitative stage.



Competitive Analysis

Why do a Competitive Analysis?

To evaluate your competitors' IAs and determine their strengths and weaknesses.

- *How many top-level items do they have?*
- *How do they label them?*
- *How deep is the IA?*
- *What are some of the common labels for your industry?*

Benefits

- Learn from your competitors.
- Get ideas for possible organization schemas.

X Just because they did it, doesn't mean it's right or that it will work for you!

4

Create New IA

Card Sorting

A black and white photograph of a card sorting session. A person's hands are visible in the lower-left corner, holding and sorting through several white cards. The cards are laid out on a dark, textured table surface, forming a grid-like pattern. Each card has a single, faint, illegible mark or character on it. In the background, a keyboard and some papers are visible on a desk.

Why do Card Sorting?

To figure out how the new types of information fit in.

- *What categories do people create for this content?*
- *Where did they place problematic items?*
- *Do the labels make sense or are they vague?*
- *Which items are outliers?*

Benefits

- Helps expose people's mental models of a system.
- Helps you get rid of expert speak or entrenched organizational schemas.
- Provides various options for the organization schemas.
- Gives you a starting point for top-level categories.
- Helps you evaluate provided categories.

Butcher Paper IA

RESEARCH

CAPABILITIES

EDUCATION

POLITICS

REGIONS

CAREERS

Supported
and COI

COMMAND & CONTROL
COMMS
COMPUTERS
& INTELLIGENCE
CHI

AUTONOMY

ENGINEERED
RESILIENT
SYSTEMS

SENSORS

CYBER

ELECTRONIC
WARFARE

HUMAN
SYSTEMS

AI/ML
ADVANCED
SYSTEMS

Take a
class

Get
trained

Solutions
for
...

Software
+
Tools

Cyber
Workforce
Development

Set
Priorities
Network

Reliance
on

Better
Buying
Power

SOFTWARE
DEFINED
SYSTEMS

VERIFICATION
+
VALIDATION

CYBER-
PHYSICAL
SYSTEMS

Acquisition
and
Management

Why do a Butcher Paper IA?

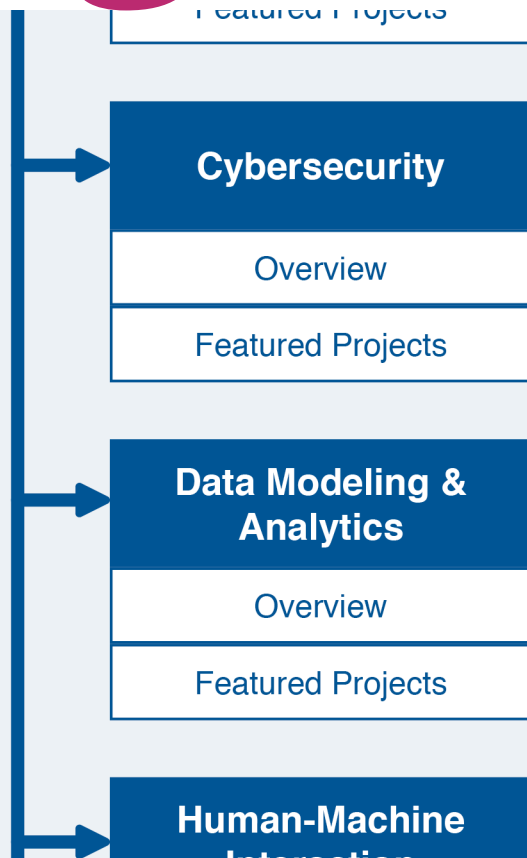
To collaboratively begin defining the new IA.

- *What is the state of the IA design?*

Benefits

- Participatory design approach that involves the team.
- Allows you to discuss the research and make decisions together.
- Demystifies the process.
- Creates shared responsibility and ownership.
- Easy to iterate on.
- Constantly visible.

Task Flow Diagrams



PUBLICATIONS

All Publications

Annual Reviews

Software & Tools

Technical Papers

Fact Sheets

Insights

NEWS

News

Events

Conferences

SEI Bulletin

Press Room

Why do Task Flow Diagrams?

To understand how a user should ideally move through the new IA.

- *What is the ideal path for <archetype> to accomplish ... ?*

Benefits

- Validates that defined archetype tasks can be accomplished.
- Helps you view the IA from the user's perspective.

5

Test & Refine New IA

Click Testing

Capabilities

Education

Publications

News

Capabilities

Education

Capabilities

Education

Publications

News

About

Research

Capabilities

Education

About

Research

Capabilities

Education

Why do Click Testing?

To validate IA decisions along the way.

- *Does the top-level nav work?*
- *Where would people go first to find ... ?*

Benefits

- Compare options.
- Great way to eliminate opinion-based discussions and decisions.
- Measure improvement from original IA.
- Quick and cheap.

Example

Proposed IA

About

Research

Capabilities

Education

Publications

News

Example

Proposed IA + Heatmap



Compare: Original First Click

72%

Work Areas	3%
Engage with Us	36%
Products and Services	16%
Library	1%
News	33%
Careers	1%
About Us	9%

118%
Improvement

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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This report was prepared for the SEI Administrative Agent AFLCMC/AZS 5 Eglin Street Hanscom AFB, MA 01731-2100

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DM18-0220

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Thanks!

Keep in touch!

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