

Accessibility and Usability

Working together to make things better.

The Project

Project Goals

People doing business in Washington State can:

- ④ Apply for a business license
- ④ Pay business taxes
- ④ Find help



Accessibility Champions

Customer Experience

Change Managers

Program Staff

Information Services Staff

Developers and Architects

UX Design

Web Content

Research and Accessibility



The Research and Accessibility Team



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Researcher and
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Associate



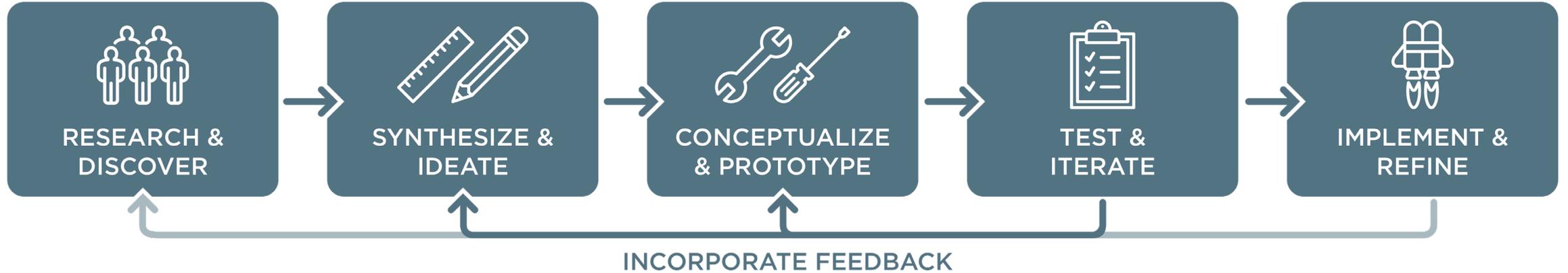
Beth Somerfield
Accessibility Analyst



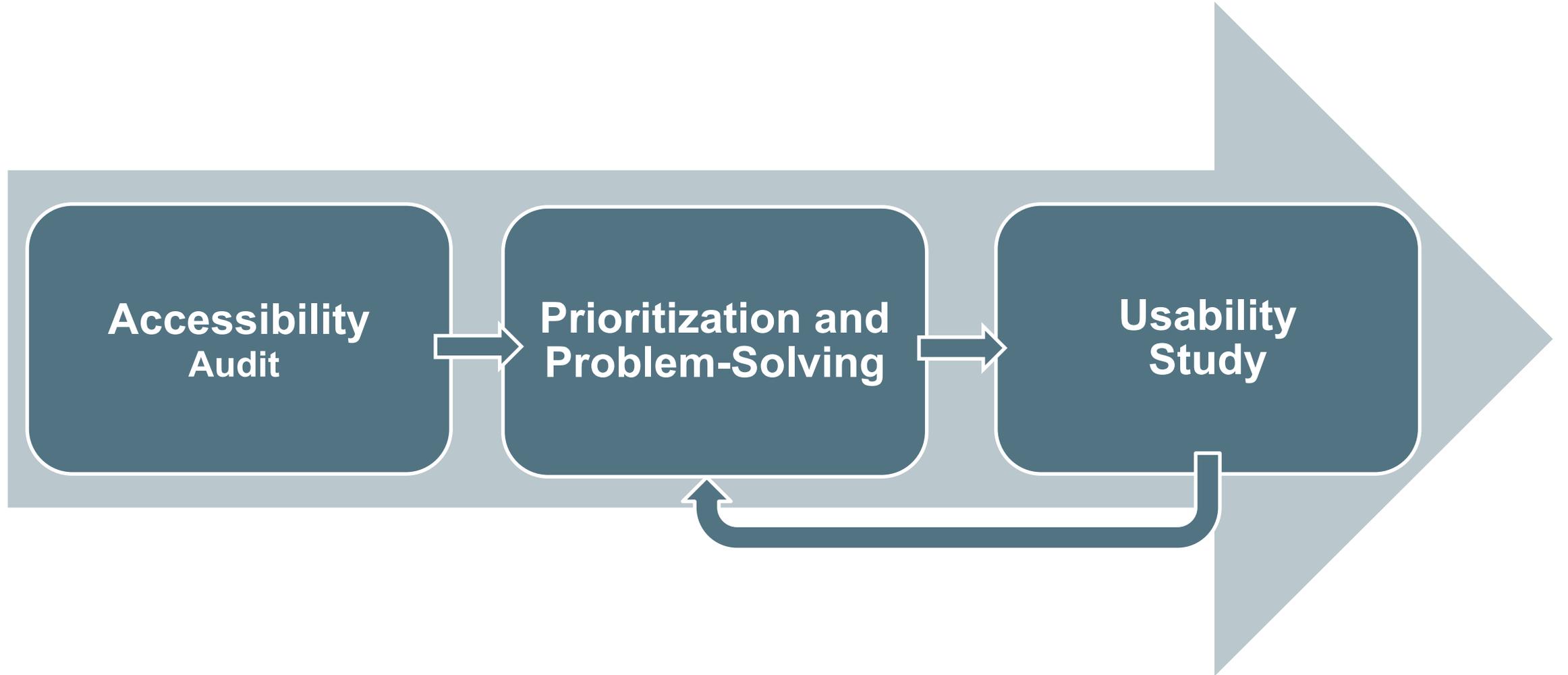
Suzanne Boyd
Founder & CEO

The Process: Support Accessibility with Human-Centered Design

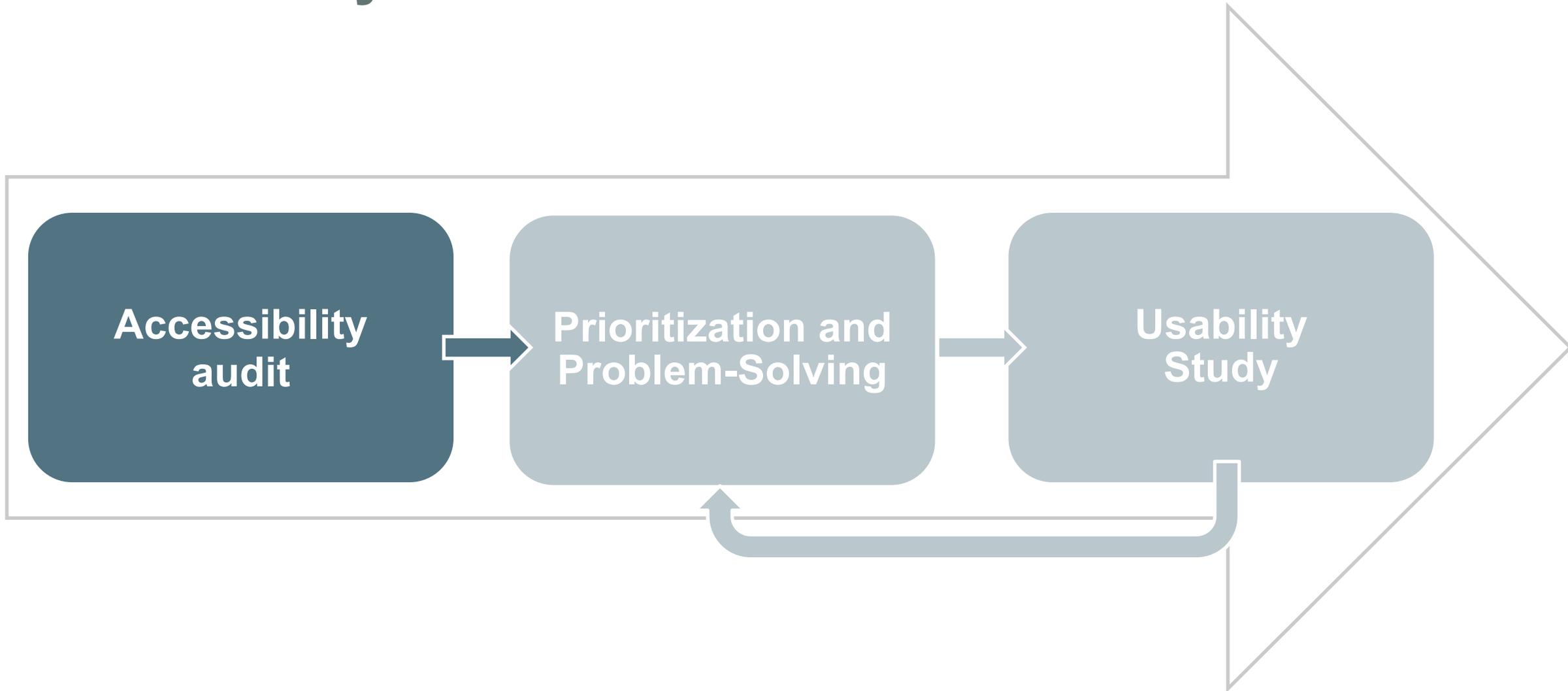
Project Approach: Human-Centered Design



Steps in an Inclusive Usability Studies



Accessibility Audit



Accessibility Audit Champions

Customer Experience

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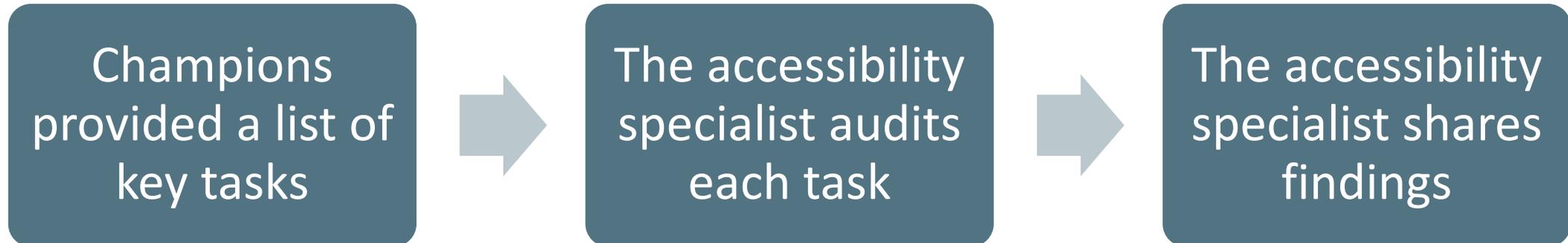


Weekly Audit Cycle

We broke the audit down into weekly cycles.

This allowed for stronger engagement with limited resources, and highlighted recurring global issues.

Each week:



Documenting Audit Findings

| | A | B | C | D | G | H | I | J | K | L | M | N | O | P | Q | R | S | T |
|----|--------|--|--|--------------------------------|---|---|--------|-------------|------------------|------------------|--|-------------------|------------------------|------------------------------------|---|---|--|--------|
| | Issue | Page(s) | Page Element | Impact Severity | Issue Details | Recommendation | Status | Type | Change owner | Test case | Techniques and Resources | Method/Tool | Date Found | WCAG Guideline | WCAG Level | WCAG link | Issue Resolved | Study? |
| 1 | FP7 | Forgot Password | See FID26 - Button Consistency | See FID26 - Button Consistency | Have consistency button element coloring and styling. | Have consistency button element coloring and styling. | Intake | Global Site | Thomas and Janet | | See FID26 - Button Consistency | Manual Inspection | 5-Oct | See FID26 - Button Consistency | See FID26 - Button Consistency | See FID26 - Button Consistency | In test. Login and PW reset: Intake #1914. An existing intake request, added these items. | Yes |
| 37 | MDORS1 | My DOR Services | My DOR | Serious | My DOR "Orange" color only is 2.19:1 contrast. Should be minimum 4.5:1 | Adjust orange to darker or choose a different color. | Intake | Global Site | Thomas and Janet | | Change contrast to meet 3:1 requirement for 14 bold larger. Reference: https://webaim.org/resources/contrastchecker/ for further contrast validation | axe DevTools Auto | 5-Oct | 1.4.3: Contrast (Minimum) | AA | https://www.w3.org/WAI/WCAG21/Understanding/contrast-minimum.html | In test. Login and PW reset: Intake #1914. An existing intake request, added these items. | Yes |
| 42 | MDORS2 | My DOR Services | Missing lang attribute see Issue L9 | Serious | Language of page is not programmatically set as an attribute of the <html> element | Add language attribute to <html> element --> <html lang="en"> This informs screen readers which language to use when pronouncing words. | Intake | Global Site | Thomas and Janet | | Add language attribute to <html> element | axe DevTools Auto | 5-Oct | 3.1.1: Language of Page | A | https://www.w3.org/WAI/WCAG21/Understanding/language-of-page.html | In test. Login and PW reset: Intake #1914. An existing intake request, added these items. | Yes |
| 43 | MDORS6 | My DOR Services | Page Title note: html page titles need to be set, apply standards 'My dor secure mail' for example | Moderate | Page titling should be descriptive enough and allow orientation of user in subpages. | Right now the page in the main content looks like "My DOR Services" but the page title is: My DOR: Home." Recommend making this more consistent and having the page title match the "My DOR Services: Home" | Intake | Global Site | Thomas and Janet | | Page Title Descriptions | Manual Inspection | 5-Oct | WCAG 2.4.2: A Page Titled | A | https://www.w3.org/WAI/WCAG21/Understanding/page-titled.html | not entered yet. | No |
| 47 | EXTAX1 | Excise Tax Setup "WAT Business Licensing and Tax" | <ul class="footer_links"> | Serious | Unordered and ordered lists and should only contain <script> or <template> elements. This footer list contains footer links but uses to create line breaks between. | Use CSS to create spacing instead of hardcoding line breaks. | | | Eric and Jen | | Semantic Markup Standards | axe DevTools Auto | 6-Oct | WCAG 1.3.1: Info and Relationships | A | https://www.w3.org/WAI/WCAG21/Understanding/info-and-relationships.html | Deployed 2/17/2022 SQR 13326 - entered. In Development 01/31/22 | Yes |
| 50 | EXTAX2 | Add Access to a Business or Licensing Account "Request Letter ID EXAMPLE mailer" | | Critical | Alternative text should be added to the image containing the text shown within the image and what it is showing. -- I suspect there is a secondary issue in that a non-visual user who receives this physical piece of mail would still need someone to read/find | Add alternative text describing the image and where it is showing the Letter ID | | Jen | | Alternative Text | Manual Inspection | 6-Oct | 1.1.1 Non-Text Content | A | https://www.w3.org/WAI/WCAG21/Understanding/non-text-content.html | Deployed. SQR 13327. | Yes | |

Sharing Audit Findings

Discuss the issues in context of where they are in the system

About Your Business

Testing Environment

Section 1 of 5

Purpose

Start a New Business ^{h3}

You are filing a new business license application.

Click **Save Draft** on any screen if you would like to finish this application later.

To get a Federal Employer ID Number, visit the [IRS website](#).

Your selected ownership structure

Enter your Federal Employer Identification Number (FEIN)

Will you have employees working in Washington State within 90 days? *

Language Assistan ^{h3}

Some agencies can provide language assistance. Would you like assistance if available?

Sole Proprietorship

Yes No

Yes No

Cancel Save Draft

Previous Next

Sharing Audit Findings (continued)

Building understanding: Same form but a different layout for headers can cause confusion for people using screen readers

Online Business License Application

Testing Environment

About Your Business

Location

Physical Location

Section 2 of 5

Is the physical business address the same as the home address?

Yes No

! You cannot use a PO Box or private mailbox (PMB) for the business location. The business location and mailing addresses may be publicly disclosed.

Physical Business Address

Country

USA

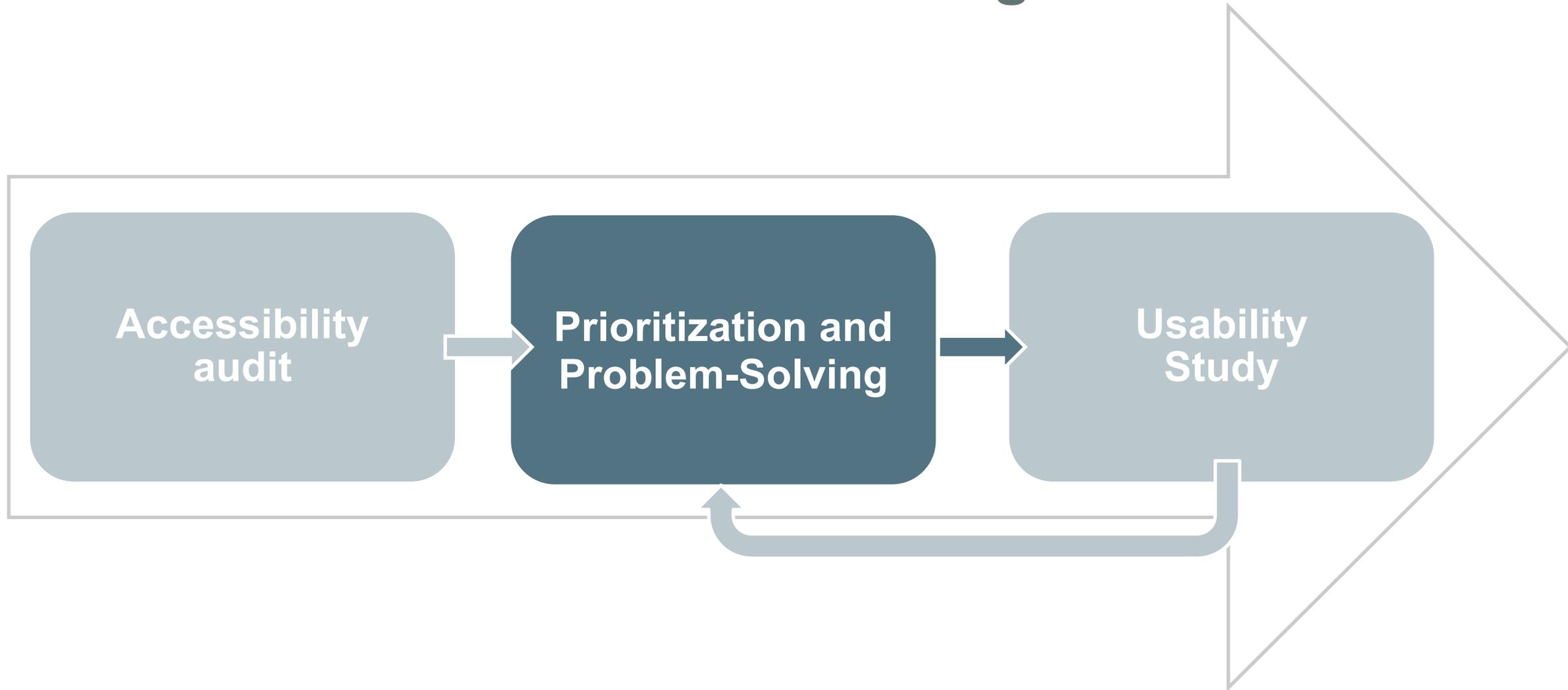
Street *

Required

Street 2

Cancel Save Draft Previous Next

Prioritization and Problem-Solving



Prioritizing and Problem-Solving Accessibility Champions

Customer
Experience

Change
Managers

Program
Staff

Information
Services
Staff

Developers
and
Architects

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Accessibility



Example: Problem-Solving

| | |
|--|------|
| Retail Sales Taxable Amount | 0.00 |
| Local Sales Taxable Amount | 5.00 |
| Difference  | 5.00 |

Local Sales taxable amount must match Retail Sales taxable amount



Previous

Next



Example: Working Together to Build a Community Understanding of Solutions

Business Activity

Indicate the business activities in Washington

Services

Screen reader says
“Services checkbox
checked”

Most Common

- Corporation
- General Partnership
- Limited Liability Company (LLC)
- Sole Proprietorship

Screen reader says
“Row 5 column 1 radio
button checked 1 of 1”

Example: Identifying Issues That Cannot Be Fixed Before the Study

12 Upload a file

7 Testing Environment

To add or remove tax classifications, check the "Filing" box next to the tax classification.
Then, click "Next" below to start filing

Business and Occupation

Filter 13

17 Line Code

18

19 Filing

22

21 ? Retailing

23

25

24

21

27 ? Wholesaling

28

29

30

32

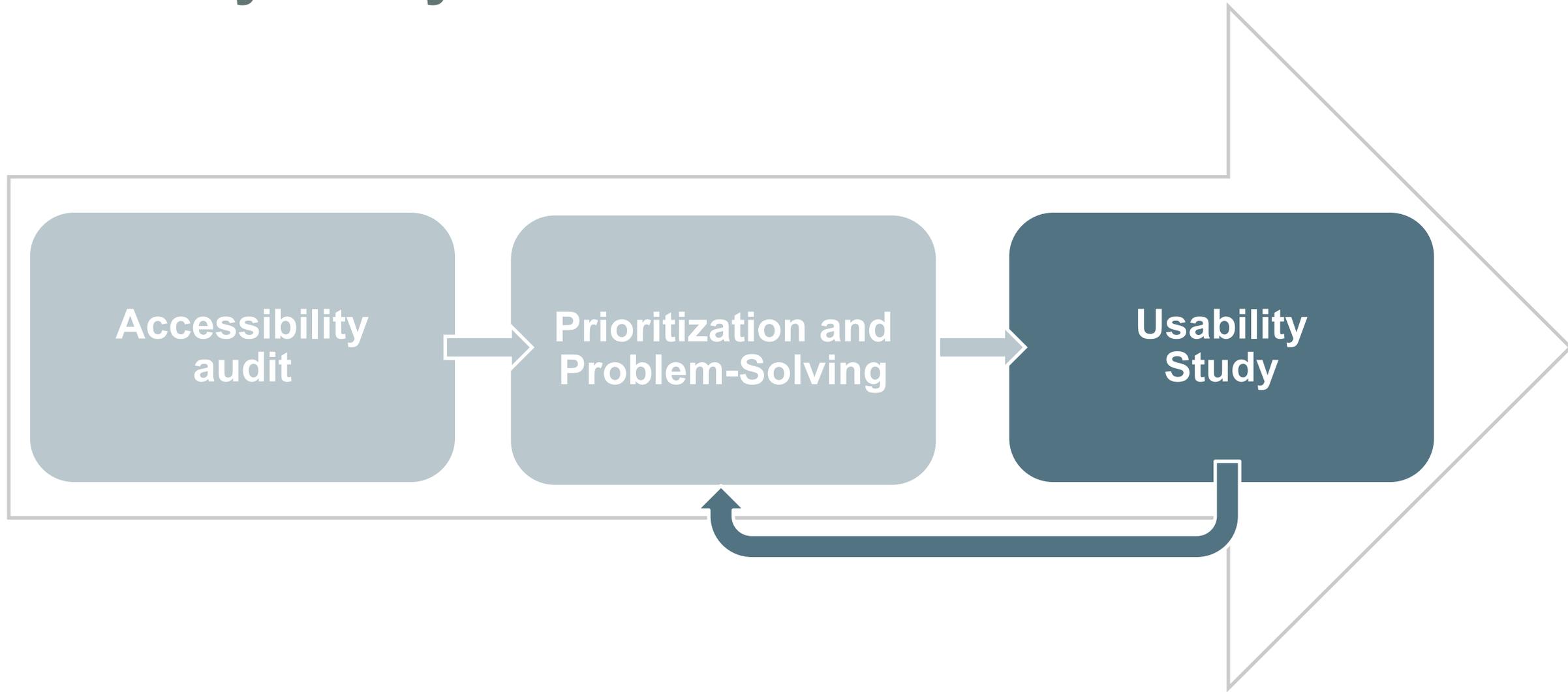
31 ? Service and Other Activities; Gambling Contests of Chance (less than \$50,000 a year)

33

3

35

Usability Study



Study Accessibility Champions

**Customer
Experience**

**Change
Managers**

UX Design

Web Content

**Research
and
Accessibility**



How the Audit Shaped the Research

- ④ The audit identified issues that could stop someone from completing a task or may cause frustration or slow them down.
- ④ The audit findings had a lot of technical and content issues so we focused on select technical findings for this upcoming study.
- ④ To measure the difference in experience we selected audit findings to explore in testing that may not be experienced in the same way.

Setting Up an Inclusive Study

Inclusive studies require extra time and preparation to ensure that the study itself is accessible, participants match study recruitment criteria, and researchers are knowledgeable about assistive technologies and disabilities.

- ④ **Testing criteria focused on the mechanics of the page not knowledge of business tax or licensing**
- ④ **Create a recruitment screener to focus on assistive technology**
- ④ **Use experienced recruiters**
- ④ **Managing logistics**

Example: Participants' Experiences Show the Issue Severity

- ④ The audit documents if accessibility standards are met but it does not document the human experience.
- ④ By observing people with disabilities in a usability study you can measure how your implementation of accessibility standards is or is not supporting their ability to complete tasks effectively.
- ④ The severity of issues is different between people even within the same types of disability.

Example: Accessibility Barriers Were More Challenging for Non-Technical Participants

- ④ **Screen reader users can still work through inaccessible sites but only if they have enough technical knowledge.**
- ④ **Technical users:** Will work around common accessibility problems
- ④ **Non-technical users:** Can get fully stuck on some tasks and would need support

Next Steps

What's Happening Now

- ④ **Currently analyzing results from inclusive usability study and developing presentations and reports**
- ④ **DOR will continue working to ensure accessibility issues are fixed**

Continuing the Human-Centered Design Process

- ④ **Continue monitoring and managing the accountability of accessibility work in progress**
- ④ **Future usability testing with more people with different types of disabilities (cognitive, neurological, learning)**

What We'll Do Differently

- ④ **Understand recruitment profiles earlier**
- ④ **Build in extra time to start recruitment much earlier**
- ④ **Fewer expert participants**
- ④ **Wider range of assistive technology**

Summary

- ④ **Human-centered design puts users first to create useful and usable products and services**
- ④ **Including people with disabilities in design activities throughout the process builds more accessible user experiences**
- ④ **Together, accessibility audits and inclusive usability studies:**
 - Find more accessibility issues and build understanding of different human experience
 - Help teams understand, prioritize, and plan out work
 - Supports champions as they advocate for organizational change

Questions?