Associate Digital Experience Accessibility User Research Program
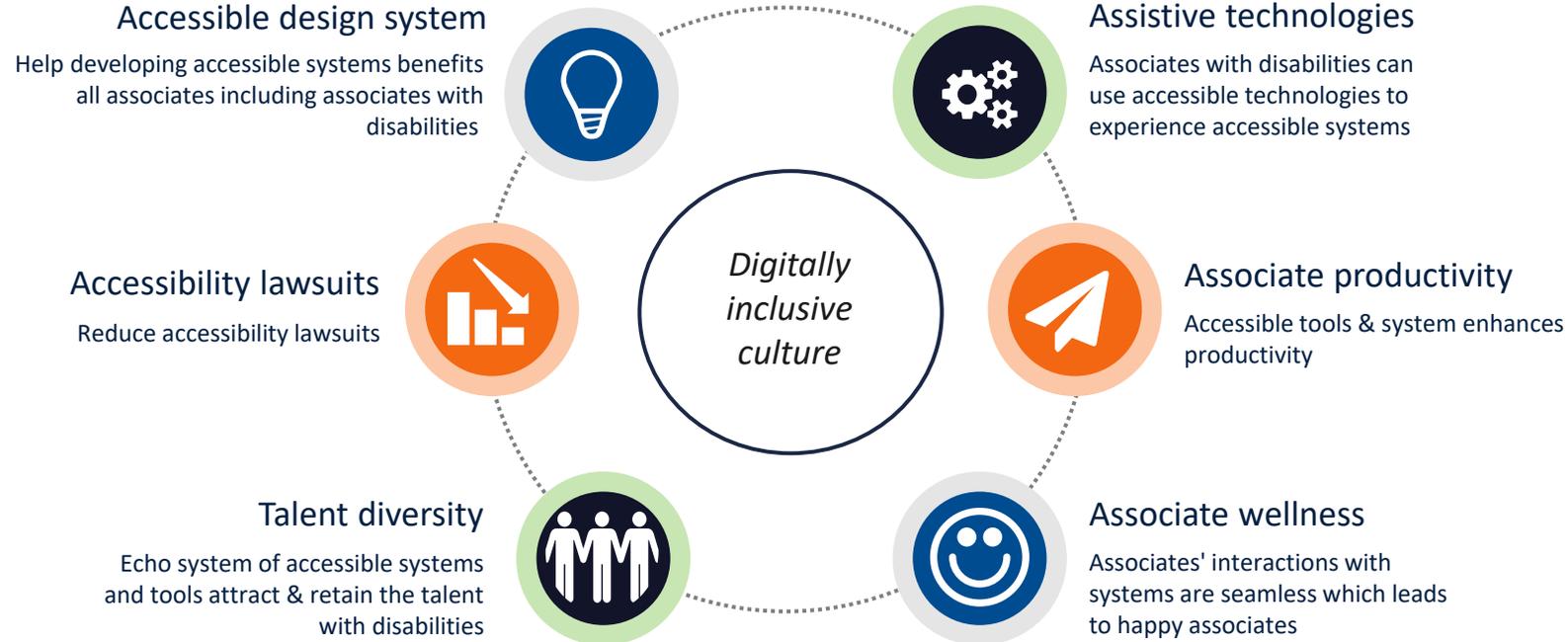
Sydney Yeager, Ph.D.

Impact of digital accessibility for associate belonging
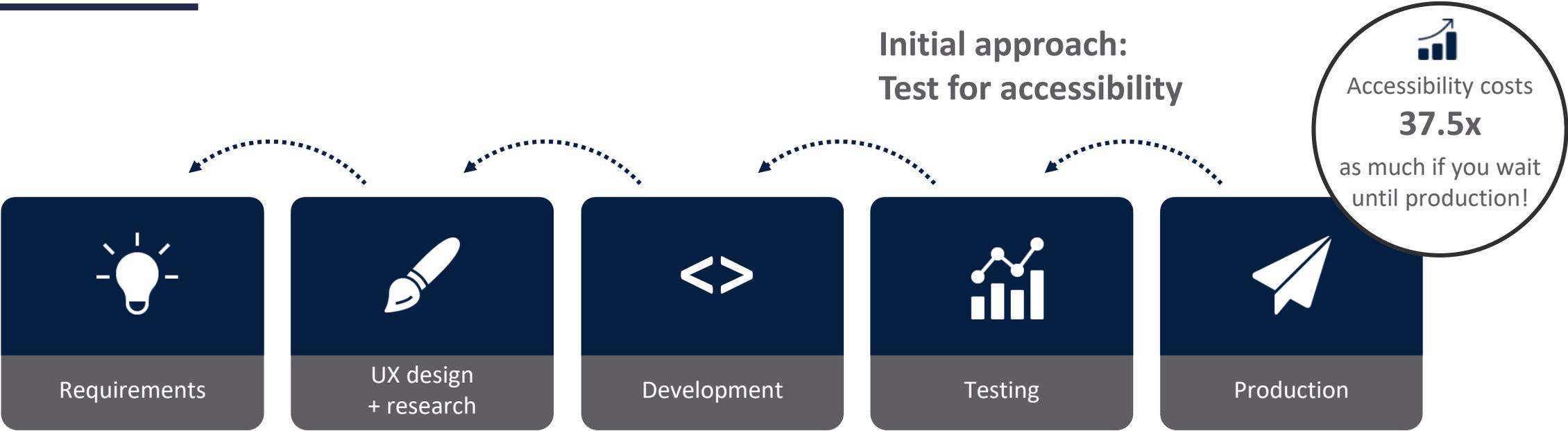
Digital inclusion benefits

Accessible design system
Help developing accessible systems benefits all associates including associates with disabilities

Accessibility lawsuits
Reduce accessibility lawsuits

Talent diversity
Echo system of accessible systems and tools attract & retain the talent with disabilities

Digitally inclusive culture

Assistive technologies
Associates with disabilities can use accessible technologies to experience accessible systems

Associate productivity
Accessible tools & system enhances productivity

Associate wellness
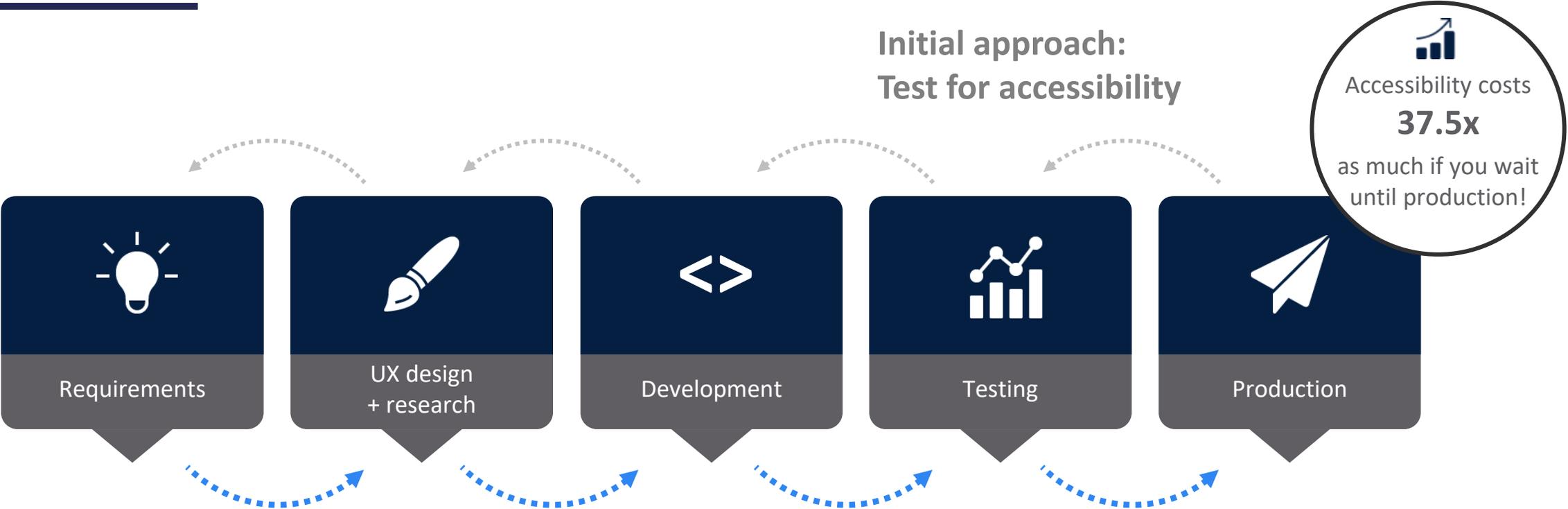Associates' interactions with systems are seamless which leads to happy associates

Digital exclusion impact

- There are billions of interactions among associates and systems
- Systems are not designed & developed for associates with disabilities
- Systems are not compatible with assistive technologies
- Associates with disabilities face challenges to access the systems
- Associates with disabilities do not have innovative tools to perform job's essential functions
- Interactions with non-accessible systems can be frustrating for associates with disabilities
- Direct impact of associates well-being and talent retention
- Company can face accessibility lawsuits

Started in the testing phase

Initial approach:
Test for accessibility

Accessibility costs
37.5x
as much if you wait
until production!

Requirements	UX design + research	Development	Testing	Production

Shifting left

Initial approach:
Test for accessibility

Accessibility costs
37.5x
as much if you wait until production!

| Requirements | UX design + research | Development | Testing | Production |

New way of working:

Start with accessibility

67% of defects can be solved with design

30% of defects can be caught with automated testing

Manual testing can catch additional bugs

Accessibility Review Committee

ADE ARC (Accessibility Review Committee)

Goal: Recruit and maintain a pool of associates with disabilities or accessibility needs for user testing and manage the accessibility testing process.

David Chen	Atul Patel	Michelle Sibenik	Melissa Waller	Sydney Yeager
Engineering Excellence	Engineering Excellence CPACC*	UX Research	UX Design CPACC*	UX Research

*SME - Certified Professional in Accessibility Core Competencies (CPACC), International Association of Accessibility Professionals

Accessibility testing funnel

1. Design review (SME)

2. Automated testing

3. Manual testing (SME)
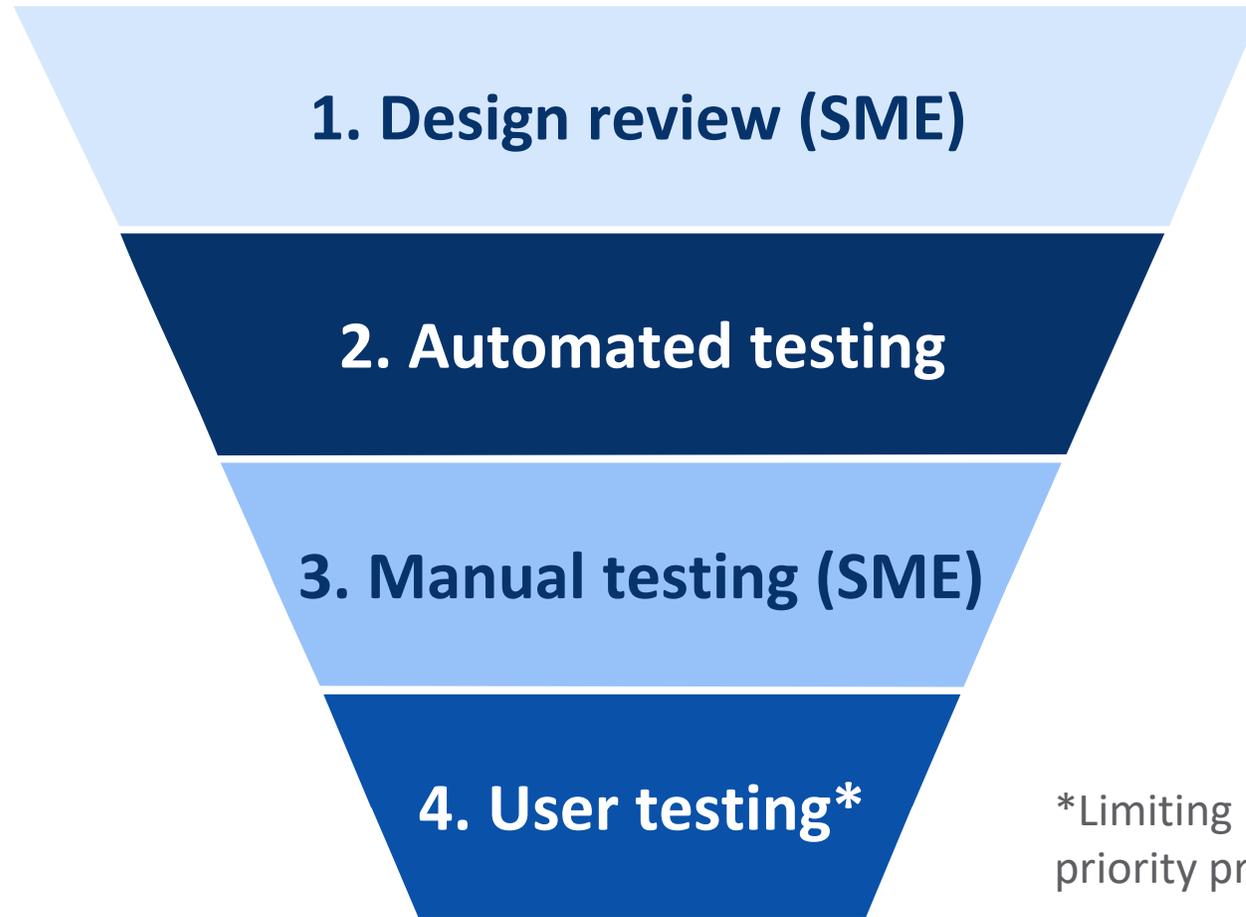
4. User testing*

Products must pass through each stage of the funnel to move on to the next.

*Limiting user testing to highest priority products and user flows.

State of accessibility testing

Level:	Current State:	Goal:
1. Design review (SME)	**Accessibility design SME's 1st review**	Accessibility design SME + UX designers review Engineering Excellence/Level Access as additional support
2. Automated testing	Automated testing in pilot phase	Automated testing tool to be released in Q2
3. Manual testing (SME)	Engineering Excellence/Level Access	Engineering Excellence/Level Access
4. User testing	**ADE's 1st accessibility user test** **Partnered with inABLE to build a pool of research volunteers** **Formalized accessibility user testing priority and intake process**	User testing by UX research team for highest priority projects Recruit more volunteer associates for user testing

Timeframe may vary, depending on study type and recruitment criteria

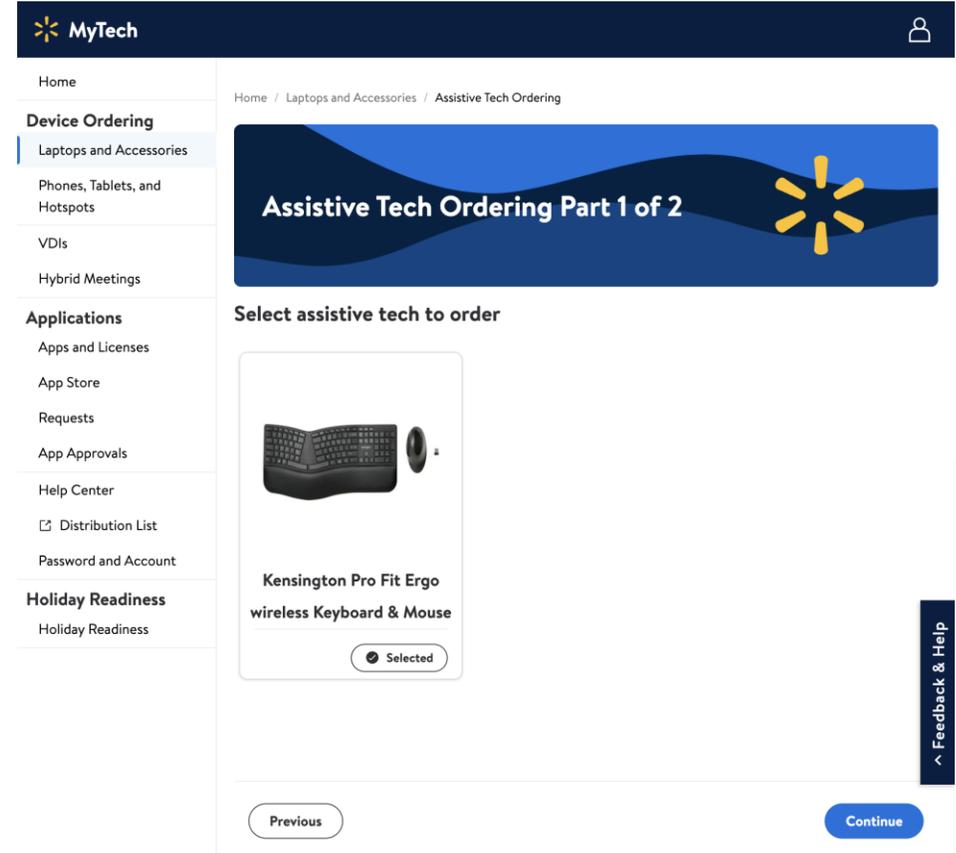# First Project Through the Accessibility Review Funnel

Prioritized MyTech as the first project!

Why MyTech?

MyTech requested accessibility testing for a flow specific to assistive technology users

High ARC Score:

- Number of associates

- Business value/risk

- Urgency

- Level of effort

MyTech assistive tech product ordering web page

Accessibility design review

Started at the top of the funnel.

Design SME tasked with a manual design review.

Annotated screens of the current product state and suggested missing content or accessibility requirements.

- Addressed alt text for images and icons

- Checked color-contrast for text and interactive elements

- Added unique page titles

- Noted reading and keyboard focus order

- Included visual focus states
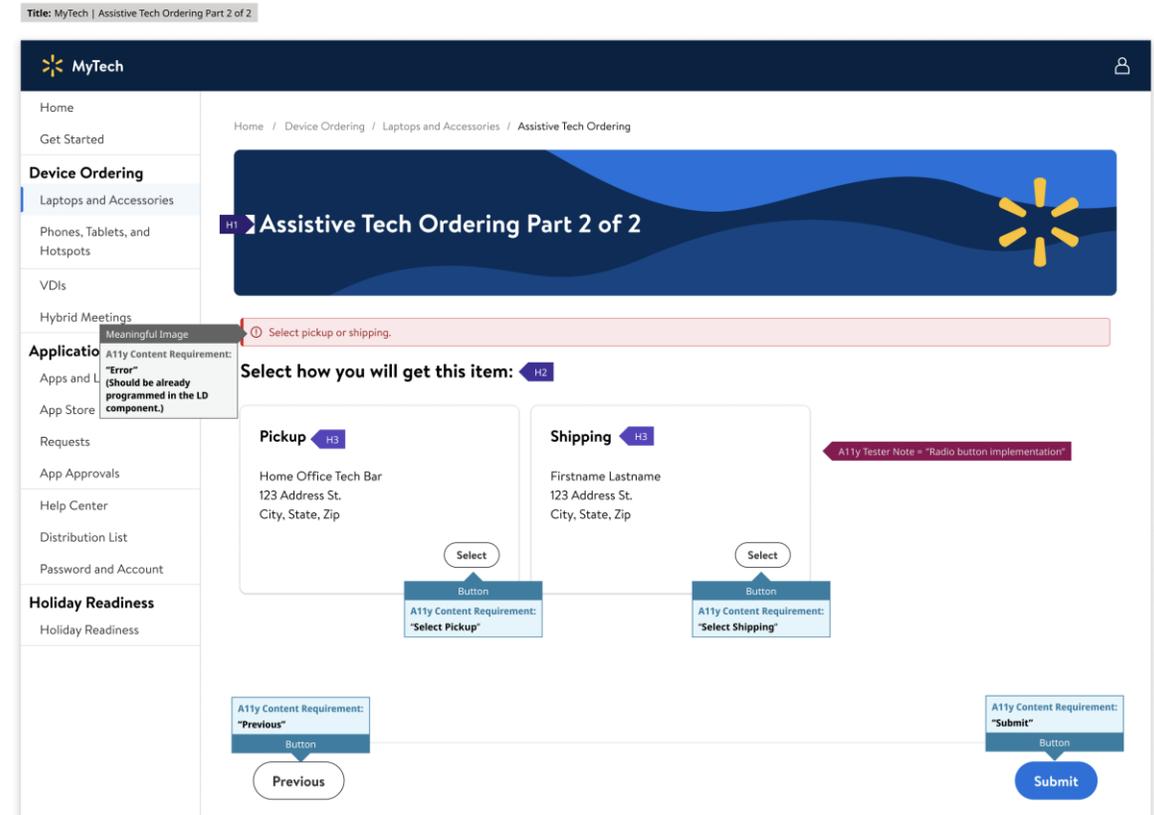
Figma file with accessibility annotations.

Accessibility training for UX designers

Launching an accessibility training series to start with inclusive design.

Adding accessibility annotations in the design file.

- Currently testing out the *beta* A11y Annotation Figma library used by the Walmart US team.

- Design annotations include:
  - Page titles (web)
  - Image and icon alt text
  - Buttons or link alt text
  - Heading hierarchy
  - Screen reader announcements
  - Reading order and focus states

A place to order additional laptops for yourself or other associates. Ordering for internal transfers and international loaner

Decorative Image ✓ Selected

Button

A11y Content Requirement:
Pattern: "Selected {product name}"
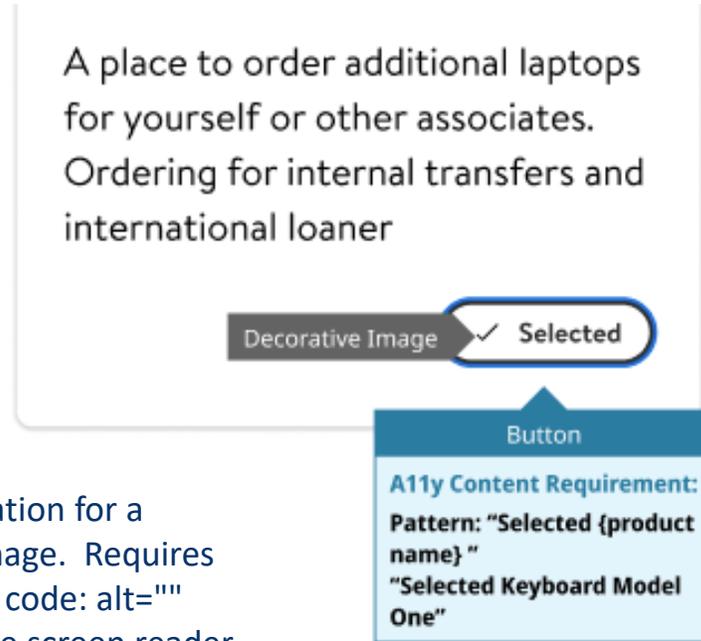"Selected Keyboard Model One"

Image annotation for a decorative image. Requires the following code: alt="" which tells the screen reader not to read it.

Button annotation includes alt text for screen readers. Requires the following code: alt="Selected Keyboard Model One" instead of "selected".
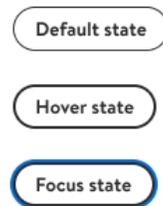
Adjust UX ways of working

Handoff with annotations

New Figma project templates for UX designers.

Include accessibility annotations in the handoff file for engineers.

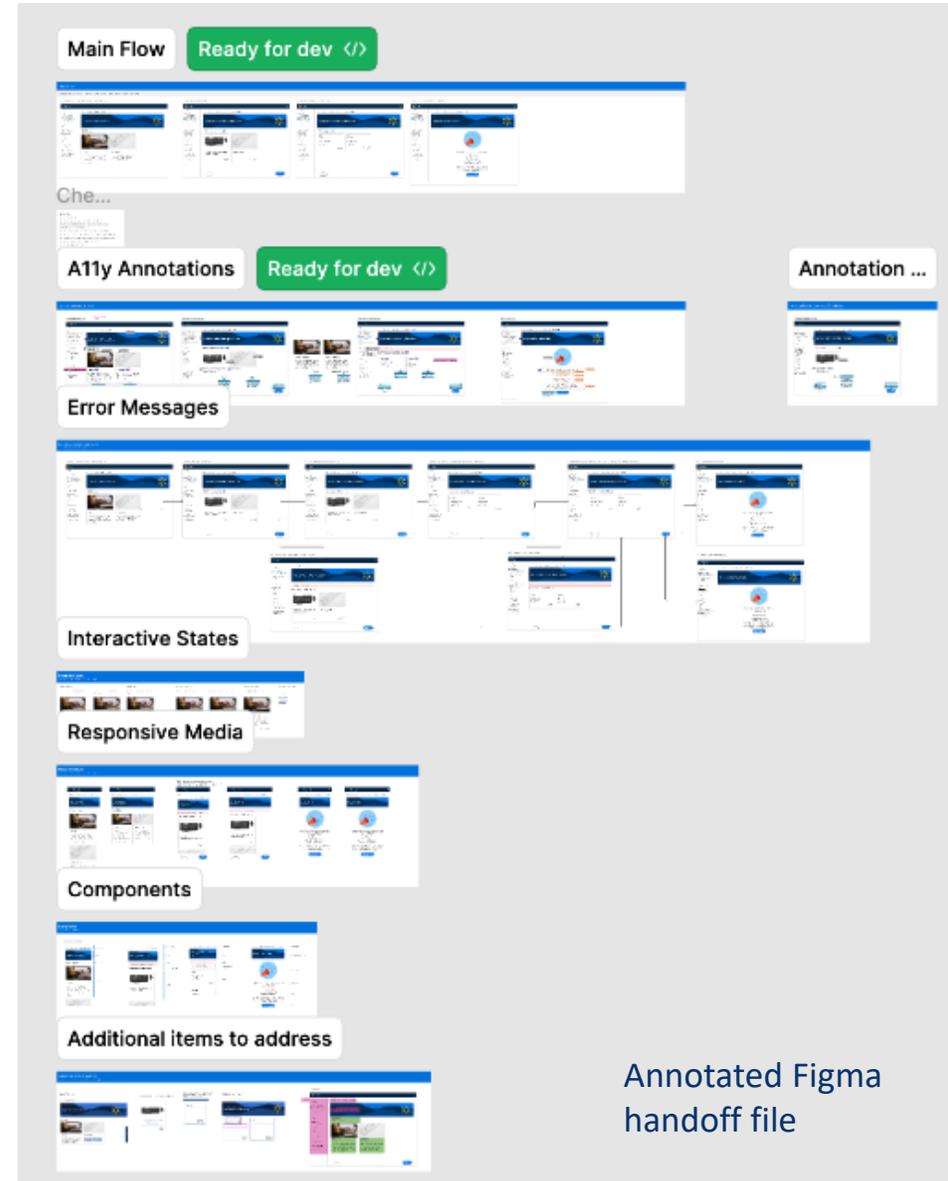**Visual quality assurance (VQA)**

Process and documentation of bugs during VQA process.

Buttons for visual reference

Default state

Hover state

Focus state

Example of interactive hover and focus states for a button

Annotated Figma handoff file

Automated accessibility testing

The MyTech team:

- Piloted the Level Access automated testing tool

- Used the browser extension for testing

- Evaluated the pages through the Level Access tool

Scan history

Search by scan title

[   ] [Search]

Filter by scan tag

[1 selected ▾] [Filter]

Rows per page [10 ⌄]   1 - 10 of 77   [Previous] [1] [2] [...] [8] [Next]

Date ⬍	Scan title ⬍	URL	# of pages ⬍	Scan tag ⬍	Score ⬍	Total critical issues ⬍	Actions
April 8, 2024	Success Page	https://mytech.walmart.com/	1	Assistive Tech Flow	84 / 100	0	View results
April 8, 2024	Step 2 Select Error	https://mytech.walmart.com/	1	Assistive Tech Flow	84 / 100	0	View results
April 8, 2024	Step 1 Select Error	https://mytech.walmart.com/	1	Assistive Tech Flow	84 / 100	0	View results
April 8, 2024	Step 1 Load State	https://mytech.walmart.com/	1	Assistive Tech Flow	84 / 100	0	View results

Level Access tool's dashboard

Manual accessibility testing

Level Access manually tested the dev site.

1. **Mouse**
   Used a mouse to navigate through the flow. Noted all interactions and hover states. Checked for visual color contrast and content hierarchy.
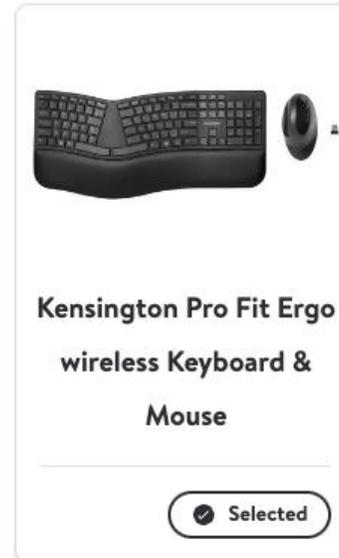
2. **Keyboard**
   Used the tab and spacebar keys to go through the flow and make sure all interactive states are focusable, in logical order, and show the visual focus state.

3. **Screen reader**
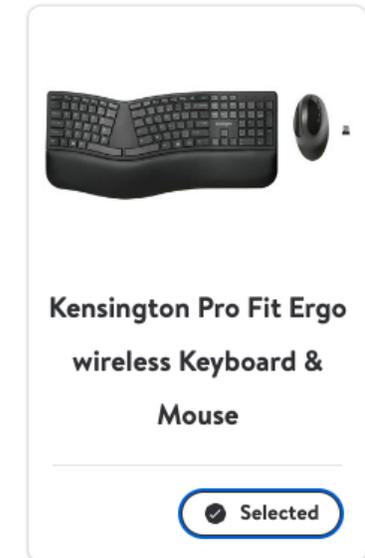   Note any variations, missing announcements, or missing role/state/value attributes for screen readers.

Default state of the selected button showing a black outline.

Keyboard focus state of the selected button showing an additional blue outline.

MyTech accessibility user testing

Researcher: Sydney Yeager, Michelle Sibenik, Ana Belen Conrado, Divya Raju Mirchandani, Sheila Hurley
Product partners: Akanksha Shrivastava, Brandon Johnson, Sara Friesell, Atul Patel, David Chen

What we did

- **Conducted the first accessibility user testing** to evaluate the accessibility of MyTech's core site functionality
- Focused on identifying visual barriers to accessibility on MyTech's homepage and site navigation
- Engaged screen reader and screen magnification users

What we found

- **2 positives**: well-designed font size and well-divided layout
- **5 accessibility issues**: inaccessible side navigation, wordy and unclear writing, screen reader load times, and unable to get help with assistive tech
- **2 usability issues**: unclear navigation and cognitive strain by having two search bars

Learnings and improvement

- **Learning**: recruitment was a challenge
- **Improvement**: develop **new accessibility recruitment survey** and send out twice a year to inABLE and to assistive tech users

Andy's story | daily struggles with workplace accessibility

Supporting assistive tech

Request ZoomText

Get state funding

Tech not working

Find alternative solution

No ticket resolution

Workplace inaccessibility

Conference room tech

Lunch experience

Navigating on campus

Samantha's story | using a less efficient solution

Request Grammarly

Go to the doctor

Get documented proof for work

6-month process

Grammarly **denied**

Share documents

Use less efficient alternative solutions

- Now relies on Chrome App Store screen reader
- Spell check only catches 15% of errors
- Screen reader is **4x longer and extra cognitive load**