



Removing Bias with Wizard of Oz Screen Reader Usability Testing

axe-con 2022

March 15, 2022

Annabel Weiner, Courtney Benjamin and Tim Harshbarger



Introductions

Annabel Weiner, CPACC
She/Her
Sr. Inclusive Design Specialist
Ally

Courtney Benjamin
She/Her
Sr. A11y Testing Process Analyst
Ally

Tim Harshbarger
He/Him
Sr. Accessibility Consultant
Deque Systems



**how can we test
screen reader usability
before a site is developed?**

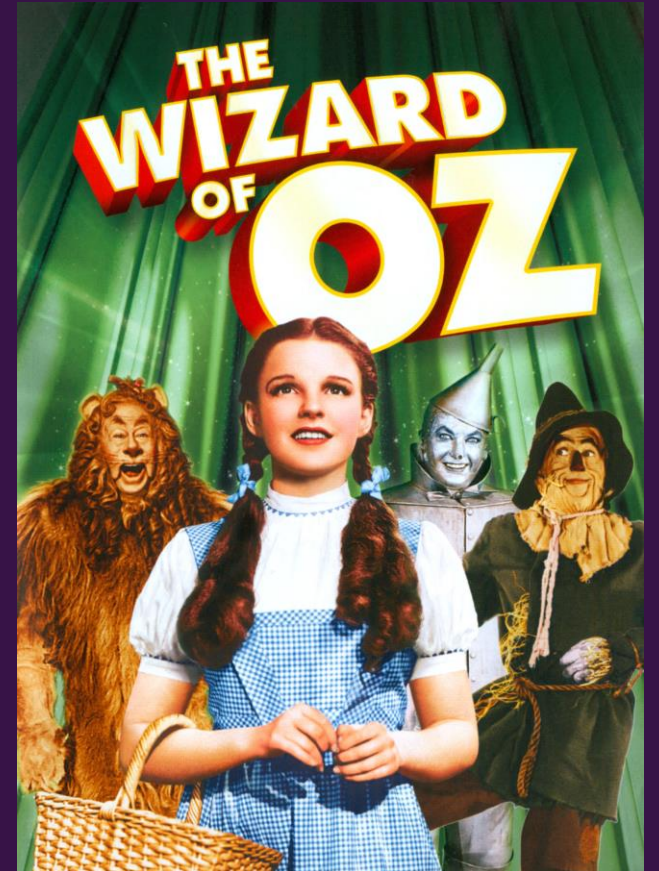
**accessibility conformance
does not guarantee
a good user experience.**



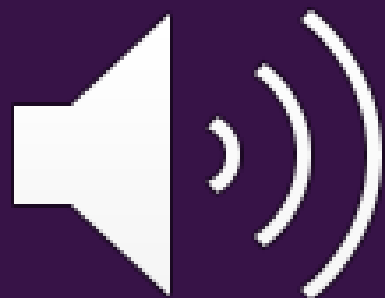
what is a **wizard of oz** test?

“Wizard of Oz (WoZ) is a method where participants interact with a system that they believe to be autonomous, but in reality, is controlled by an unseen human operator in the next room. It's a fantastic way to explore the experience of a complex, responsive system before committing resources and development time to actually build that system.”

- AnswerLab.com

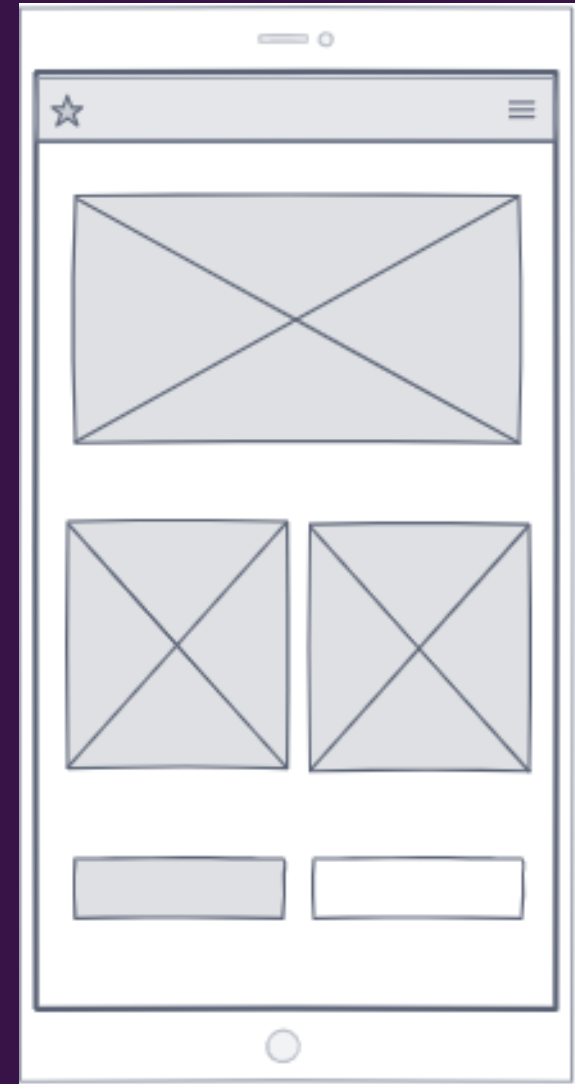


Listen



setting the scene

“We have a partially functioning prototype – it’s not a real site that is built out yet but something that’s in the early design phase.”



building the test

Headings

Heading level 1 Snapshot

Heading level 2 Investment Accounts

Heading level 2 Bank Accounts

Tables

Information about your Ally Self -Directed Investment Account, table 5 columns 3 rows

Information about your Ally Bank accounts *interest checking*, table 5 columns 3 rows

Information about your Ally Bank accounts *online savings*, table 5 columns 3 rows

Information about your Ally Bank accounts *CDs*, table 5 columns 4 rows

Landmarks

Innovative options make reaching your goals possible

Main navigation

Contact us navigation

Main

Footer

Links

Skip to main

Explore all the ways you can grow with us

Ally Invest

CDs

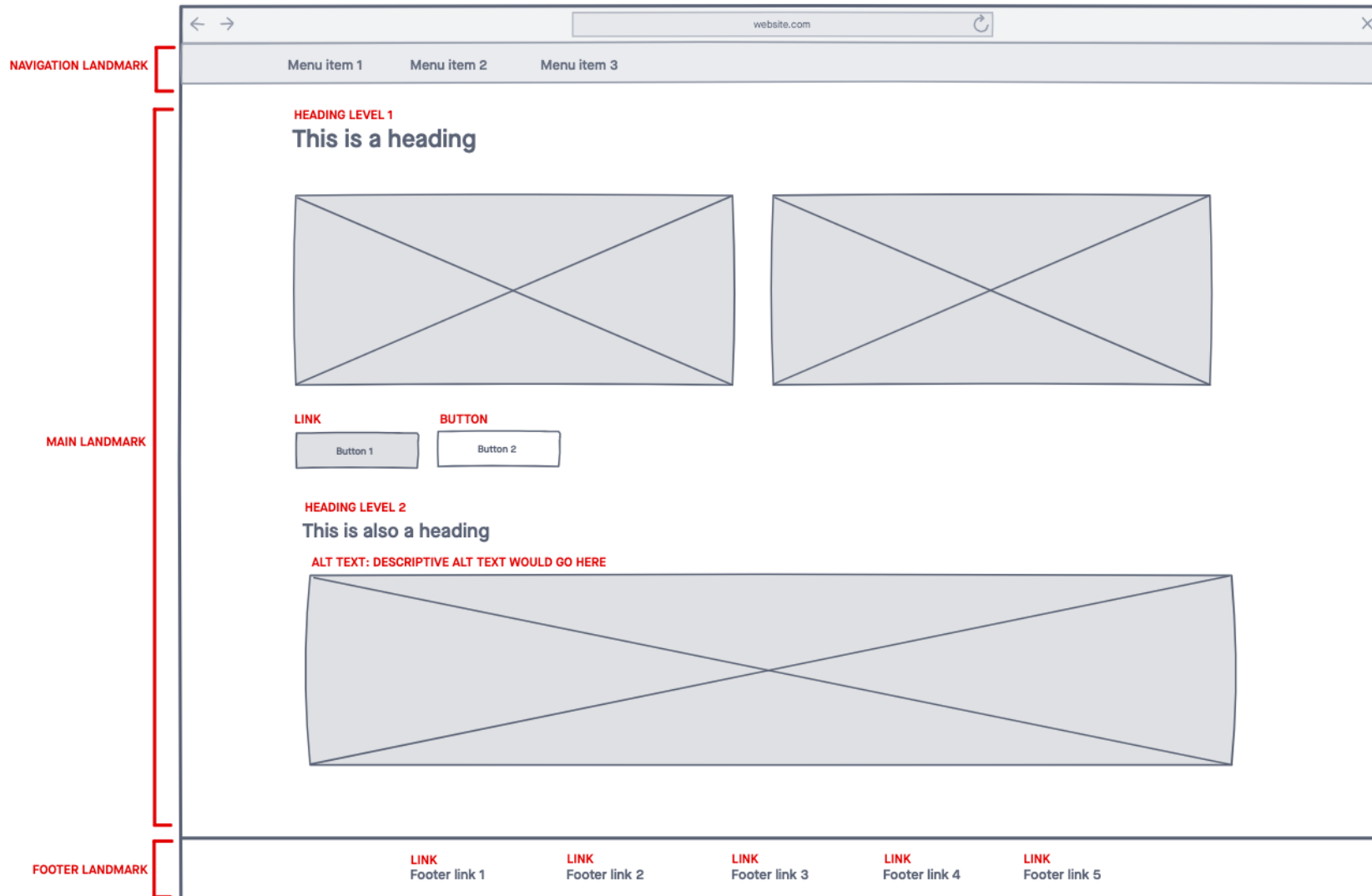
Buy a Home

Open an Account

Ally logo

Accounts. collapsed

prototype with **ally** annotations



using adobe XD

A screenshot of the Adobe XD interface. The top bar shows 'Design', 'Prototype', and 'Share' tabs, with 'Prototype' selected. The project name is 'axe-con demo'. The zoom level is 299.7%. On the left, a panel shows a hierarchy of items: 'All Items', 'IPHONE 12 PRO MAX - 2', 'Component 1 - 2', and 'interest checking'. The main canvas shows a white rectangle with a red border containing the text 'Interest Checking' in a large, purple, sans-serif font. A blue lightning bolt icon with a plus sign is connected to the right side of the rectangle. On the right, the 'INTERACTION' panel is open, showing a 'Trigger' of 'Tap' and an 'ACTION' of 'Speech Playback'. The 'Voice' is set to 'Joanna' and the 'Speech' content is 'Interest Checking, heading level 1'.

Design Prototype Share

axe-con demo

299.7%

All Items

IPHONE 12 PRO MAX - 2

- Component 1 - 2
- interest checking
 - \$2.00
 - Rectangle 68
 - \$100.00
 - Rectangle 67
 - \$100.00
 - Rectangle 66
 - Rectangle 41
 - Rectangle 39
 - Rectangle 38

Interest Checking

INTERACTION ⓘ

Trigger

Tap

ACTION ⓘ

Type

Speech Playback

Voice

Joanna

Speech

Interest Checking, heading level 1

being the **wizard**

Getting into the Mindset

- Taking on a robotic persona

Voice Considerations

- Volume level
- Clarity
- Consistency
- Pre-recorded content



unplanned **scenarios**

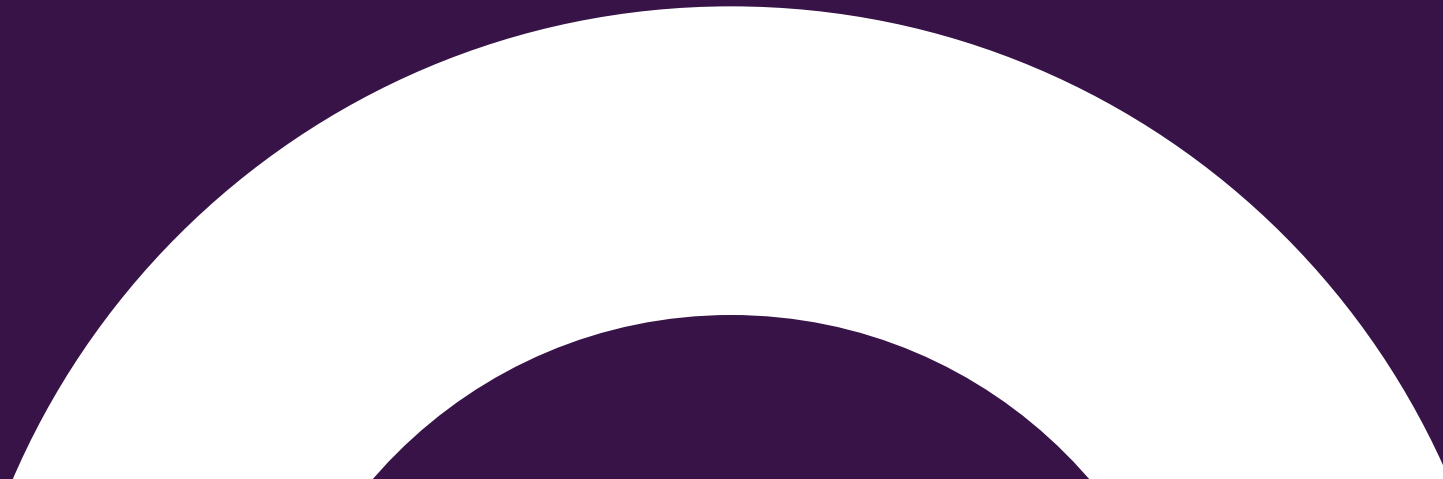
- Unexpected routes taken
- Very specific key commands requested
 - Pausing to ask user for clarification if necessary

challenges as the **wizard**

- Different hot key possibilities and different screen readers
- Differing expectations for screen reader behavior
- Switching between listening for participants keyboard commands and listening to their dialogue about their thought process
- Participants who weren't comfortable voicing the screen reader commands

being a **participant**

- Important to listen carefully, like with normal screen readers
- Remember to talk about your thoughts as you navigate
- Describe what you would expect to happen when something sounds off
- It's okay to have the task repeated as many times as needed



challenges

- Participants getting caught up on screen reader language and inconsistencies



challenges

- Participants getting caught up on screen reader language and inconsistencies
- Time to create and practice for the test



challenges

- Participants getting caught up on screen reader language and inconsistencies
- Time to create and practice for the test
- Some screen reader command limitations (ex. Specific Table modes, and link searches)
 - Insert + space + T
 - Insert F7



challenges

- Participants getting caught up on screen reader language and inconsistencies
- Time to create and practice for the test
- Some screen reader command limitations (ex. Specific Table modes, and link searches)
 - Insert + space + T
 - Insert F7
- Can't replicate custom screen reader settings



general **takeaways**

- Prepare for the non-happy paths

general **takeaways**

- Prepare for the non-happy paths
- Majority of participants picked up the concept easily

general **takeaways**

- Prepare for the non-happy paths
- Majority of participants picked up the concept easily
- Helpful to have a separate wizard and moderator

a few **test specific** takeaways

- When items are in the same categories, they should be built with the same role

a few **test specific** takeaways

- When items are in the same categories, they should be built with the same role
- Make it clear when users need to select a “save” or “submit” button

a few **test specific** takeaways

- When items are in the same categories, they should be built with the same role
- Make it clear when users need to select a “save” or “submit” button
- Don't make users listen too much before hearing the role

a few **test specific** takeaways

- When items are in the same categories, they should be built with the same role
- Make it clear when users need to select a “save” or “submit” button
- Don’t make users listen too much before hearing the role
- In a multi-step flow, give announcements when a task is completed

tips for creating **wizard of oz** test

- Prioritize testing on pages with new patterns



tips for creating **wizard of oz** test

- Prioritize testing on pages with new patterns
- Landmarks, headings and links are important



tips for creating **wizard of oz** test

- Prioritize testing on pages with new patterns
- Landmarks, headings and links are important
- Ask participants about their basic screen reader preferences:
 - Be prepared to read all until a participant tells you to stop, or read one element at a time
 - Ask which hot keys they use most often



tips for creating **wizard of oz** test

- Prioritize testing on pages with new patterns
- Landmarks, headings and links are important
- Ask participants about their basic screen reader preferences:
 - Be prepared to read all until a participant tells you to stop, or read one element at a time
 - Ask which hot keys they use most often
- Be flexible. You'll likely go back and forth between having a conversation with participants and having them voice key commands



tips for creating **wizard of oz** test

- Prioritize testing on pages with new patterns
- Landmarks, headings and links are important
- Ask participants about their basic screen reader preferences:
 - Be prepared to read all until a participant tells you to stop, or read one element at a time
 - Ask which hot keys they use most often
- Be flexible. You'll likely go back and forth between having a conversation with participants and having them voice key commands
- If you have time, practice with someone who isn't familiar with the prototype or project, like someone on a different testing or QA team. If practicing with sighted users, ask them to dim the screen.



questions?

