



Demystifying screen reader use for manual testing of Wordpress sites

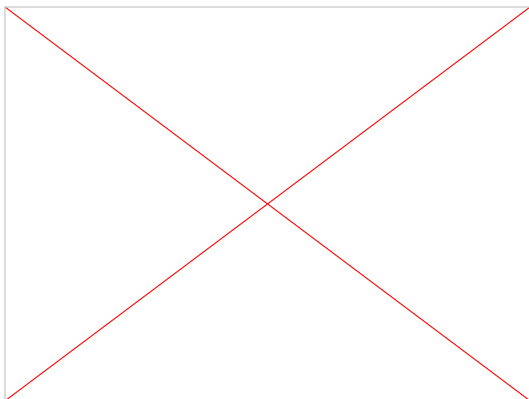


Introduction to the Screen Reader Ropes Course



bit.ly/sr-ropes-pres-wp

Who are we? - 1 of 2



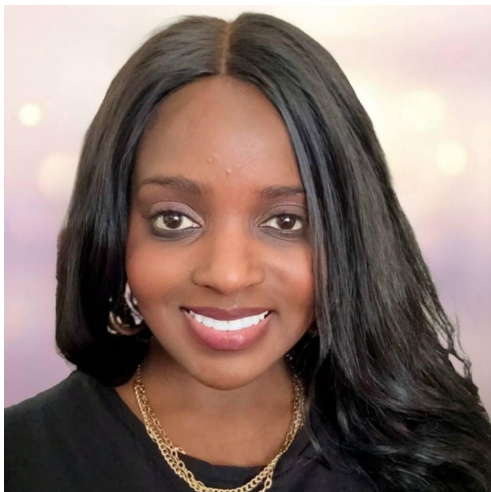
Deneb Pulsipher

- Captain Accessible at SeaMonster Studios
- Non SR native, but philoaccessiblist



seamonsterstudios.com

Who are we? - 2 of 2



Kosi Asabere

- Digital Accessibility Engineer/Lead Accessibility Consultant at Desert Wing Design
- Full-time SR User



DESERT WING
— DESIGN —

desertwing.com

Learning Goals and Objectives



- Why this topic matters
 - Screen reader testing is essential to verify the accessibility of Wordpress sites, but requires specialized skills most professionals lack
- In this session, you will:
 1. Get a method to gain the basic screen reader skills for testing Wordpress sites (ropes course!)
 2. Understand different navigation approaches taken by native screen reader users
 3. Resources to communicate accessibility issues effectively from screen-reader insights

Session

Overview



- 1 Screen reader usage statistics
- 2 Native visual vs native screen reader users' experiences
- 3 Screen reader basics and cheat sheets

Introduction: Screen Reader Ropes Course

- 5 The visual/screen-reader disconnect
- 6 Documentation and Remediation Resources

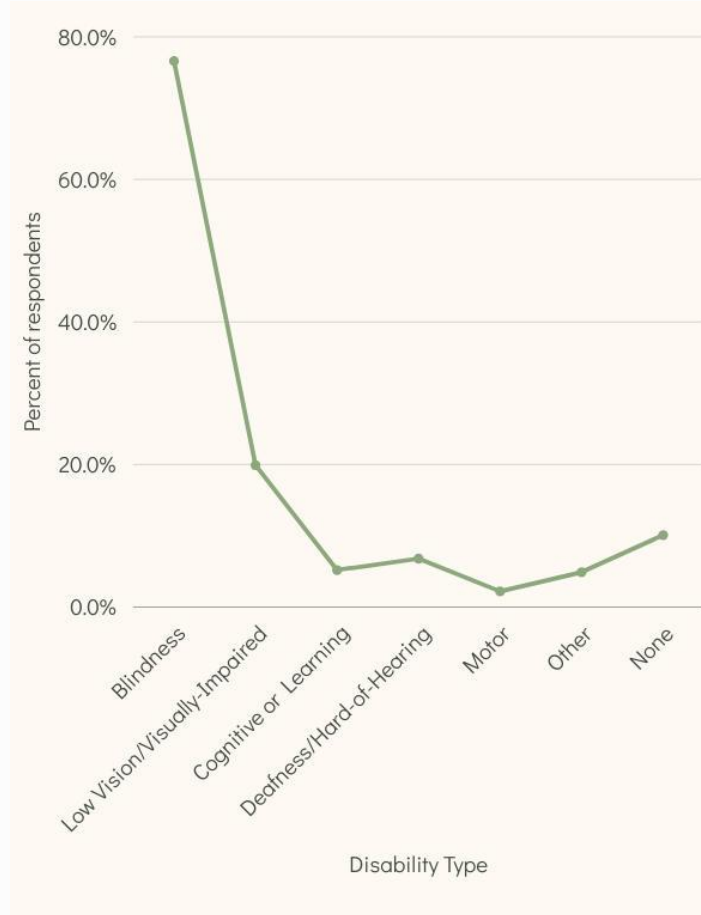
Screen Reader Practice: The World is Your Oyster

Screen Reader Usage

- Who uses (per WebAIM survey 10 in 2024*)
 - Blind/ Low vision: 83.5%
 - Deaf/ Hard of hearing: 6.8%
 - Cognitive/ Learning disabilities: 5.2%
 - Motor: 2.2%
 - Other: 4.9%
 - None: 10.1%
- Let's help them all!



*<https://bit.ly/webaim10>



Visual Surfer Experience - 1 of 2

- Dwell-time stat: average time spent on a webpage in 2023 was 53 seconds
 - <https://contentsquare.com/insights/digital-analytics-benchmarks/>
- We're not great readers, but are great at deciding whether it's worth it to read
 - Take in the vibe of the site
 - Skim headings
 - Glance over images
 - Decide in **10 seconds or less** whether to stay or bounce (nngroup.com, 2011)



Visual Surfer Experience - 2 of 2



- **Informative vs Interactive elements**
 - **Informative = get info as quickly as possible visually**
 - **Headings - larger, bold**
 - **Images**
 - **Pull quotes**
 - **Interactive = the mind groups according to past interactions**
 - **Forms - recognizable pattern (fill out?)**
 - **Sliders (ignore)**
 - **Videos (play?)**
 - **Accordions, tabs, etc, visually recognizable**

Native Screen Reader Surfers' Experience: First Impressions – My Initial Arrival

- **Hearing the title**
- **Dealing with immediate announcements**
- **Confirmation of loading**
- **Starting at the top**



Getting My Bearings – Exploring Structure

- **Jumping through headings**
- **Finding the landmarks**



Taking Stock – What's on the Page?

- **Listing the links**
- **Checking the buttons**
- **Identifying form fields**
- **Reviewing headings again**

Moving Through the Content

Every business deserves the help they need to have an online presence that is accessible and inclusive.

Tab

Read our Testimonials

Button

"We had the best experience with Desert Wing Design and have seen sales growth as a result of the changes they helped us make, including new branding materials. I highly recommend Desert Wing as a conscientious, skilled, and reliable team."



Sarah Gzemski

Executive Director **Paragraph**
Noemi Press **Paragraph**
Source: [Google Review](#) **Link**

Arrow Up

Arrow Up

Tab

"Desert Wing was able to give our business a quality, organized, and visually appealing website. Graham goes above and beyond our expectations. We are happy to trust him with all of our current and future web design projects."



Donna Kimble

Director of Operations
Urgent Specialists
[Source: Google Review](#)

"Desert Wing Design has transformed our online presence and helped streamline our business processes. They turned our website into an excellent tool for others to learn about our business and to interact with us directly. Desert Wing Design is truly exceptional."



Gwen & David Howell

Owners
Doulos Concrete Inc
Source: Email

- Tabbing through
- Reading line by line
- Listening to element types
- Paying attention to labels and alt text

Getting Things Done – Interaction

- **Using the keyboard**
 - **Enter (links), Spacebar (check boxes), Type (enter text)**
- **Looking for feedback (errors, changes)**
- **Navigating complex parts**



Questions I'm Always Asking Myself

- What's this page about?
- What are the main parts of this page?
- Where can I go from here?
- What can I do on this page?
- How is the information organized?
- How do I move through the interactive parts?
- What information do I need to put in this form?
- What's this image showing me?
- Did that button click work?
- Is this website making sense to me?



What I'm Trying to Achieve

- **To understand the purpose and content.**
- **To find my way around and know what I can do.**
- **To get a mental picture of how things are laid out.**
- **To be able to interact with elements and complete tasks.**
- **Ultimately, to have a usable and efficient experience.**



Common Themes in My Web Surfing

- **Structure is Key**
- **Words Matter**
- **Keyboard is Everything**
- **I Need to Know What Happened**
- **Accessibility Makes or Breaks It**
- **I'm Always Problem-Solving**



Let's get ready to ascend to the screen reader ropes course!



- History
- Context
- Keystrokes/ Cheat Sheets
- Ropes Course



Screen Reader History



- **1984** - Personal Computer Synthetic Audio Interface Driver (PC-SAID) was renamed IBM Screen Reader and was the first PC screen reader, from which the term “screen reader” is derived
- **1989** - Job Access With Speech (JAWS) was developed for Windows
- **2000** - Narrator for Windows 2000+
- **2005** - VoiceOver for MacOS
- **2006** - Nonvisual Desktop Access (NVDA) open-source for Windows
- **Present** - Narrator keeps getting better, but JAWS is still the most popular (\$\$\$*) with NVDA a runner up; VoiceOver is still Mac’s only option.
 - Mobile devices since 2009 have VoiceOver (iOS), and Talkback (Android)

Screen Reader Basics and Cheat Sheets



- **Basic nav**
 - **Element by element (up/down NVDA, left/right VOQN)**
- **By element type (single key in cheats)**
- **Interact with tab, enter, space**

- **Go to bit.ly/sr-cheats for online cheat sheets**
- **You can point your phone at this QR code to look at the cheat sheet on your phone while you practice with your computer:**



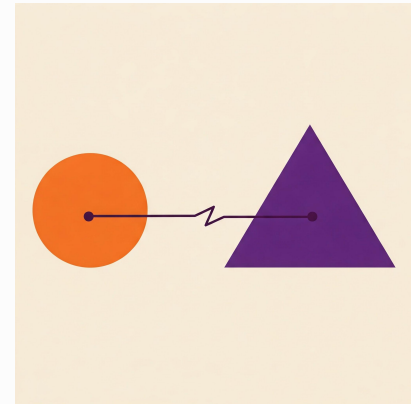
Introducing the Screen Reader Ropes Course



- **Featuring**
 - **mini crash course**
 - **built-in cheat sheets**
 - **series of 15 tasks for experience/practice**
 - **on-screen guidance, or not**
 - **timer**
 - **leaderboard**
- **seamonsterstudios.com/screen-reader-ropes-course**

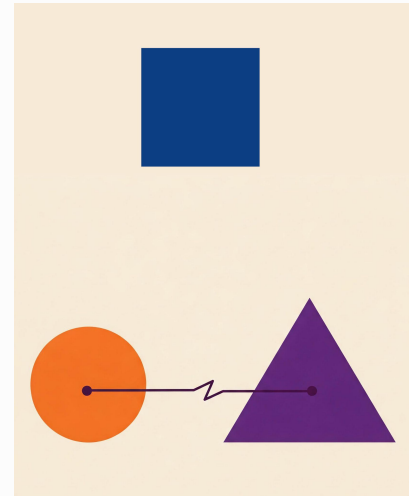
The Visual/Screen-reader Disconnect

- **Goals are the same**
 - **Informative - get the info**
 - **Interactive - perform the interactions**
- **The experience is on a different plane**
 - **varied fluency = vastly different experience**
 - **Paired testing is essential**
 - **Variety of pairings is optimal**
 - **Every user is different**



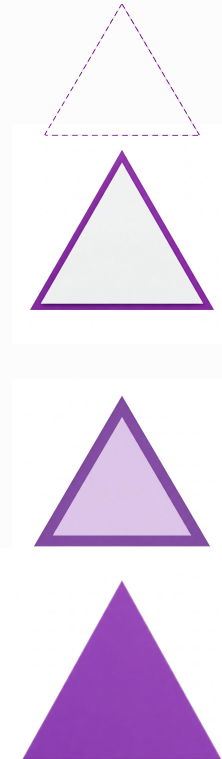
Embracing the Disconnect

- **Embrace the disconnect**
 - **Chance to tease out the differences**
 - **Chance to see the site experience as a whole (different perspective)**
 - **Chance to hammer out what would be the optimal experience for both**
- **But what if you don't have a native screen reader user to test the site with you?**
 - **That's why you're here!**



How Long Until It 'Clicks'? Estimating Learning Time

- **Nonnative screen reader development**
 - **Getting Started**
 - 2–5 hours
 - **Functional Beginner**
 - 10–20 hours
 - **Intermediate**
 - 40–60 hours
 - **Proficient**
 - 100–250 hours
 - **Native User (2,000+ hours)**
 - Lived expertise through full-time use



Screen Reader Tips



- **Kosi's Contextualizing Tips**
 - **Turn Off the Screen & Rely on Audio**
 - **Embrace Keyboard-Only Navigation**
 - **Build a Mental Map Using Headings and Landmarks**
 - **Browse Mode vs Forms Mode**
 - **Develop Patience and Practice Mental Rehearsal**
 - **Pay Attention to Dynamic Content and Focus Management**
 - **Pay Attention (generally)**

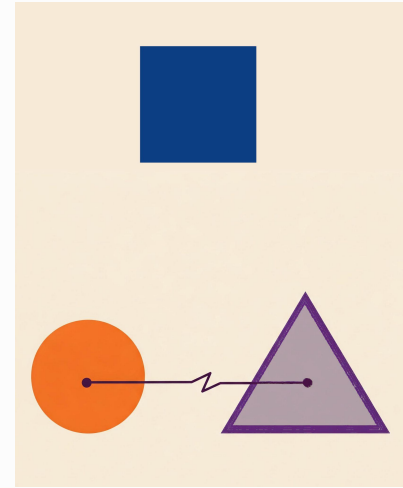
Common Screen Reader Blockers



- 1. Visual content that has no text alternative**
- 2. Functional elements that cannot be controlled with a keyboard**
- 3. Overly complex or excessive amounts of content**
- 4. Inability to navigate within a page of content**
- 5. Content that is not structured**
- 6. Inconsistent navigation**
- 7. Time limits (insufficient time to complete tasks)**
- 8. Unexpected actions (e.g., redirect when an element receives focus)**
- 9. Multimedia without audio description**

Without a native tester

- In the absence of a native screen reader paired tester
 - Realize you're not getting the full picture
 - Put yourself in the place of a native screen reader user as best you can
 - It's better than not trying
- Every site you test for accessibility you should test with at least one screen reader
 - Preferably test it with two or more
- Know that it's still not the full picture



Screen Reader Testing Tips 1 of 3



- **Know What “Correct” Should Sound Like**
 - **When navigating with a screen reader, you should hear:**
 - **Role — What is the element? (e.g., button, heading, link)**
 - **Name/Label — What is its purpose? (e.g., "Search", "Continue")**
 - **State — What condition is it in? (e.g., "selected", "disabled", "checked")**
- **If you're hearing all three (when appropriate), the element is likely coded accessibly.**

Screen Reader Testing Tips 2 of 3



- **What Appropriate Screen Reader Output Sounds Like (By Element)**
 - **Heading: “Heading level 1, Welcome”**
 - **Link: “Link, Contact Us”**
 - **Image: “Graphic, Woman walking with cane”**
 - **Checkbox: “Checkbox, Subscribe to newsletter, not checked”**
 - **Dropdown: “Combo box, Choose a country, United States”**
 - **Table cell: “Row 2, Column 1, Monday”**
 - **See full list at <https://bit.ly/output-table>**



Screen Reader Testing Tips 3 of 3



- **Warning signs that something is wrong**
 - **"Link" (with no label): Empty or missing link text**
 - **"Heading level 2, blank": No heading content or improperly styled heading**
 - **"Graphic" with no alt text: Image missing alt attribute**
 - **"Button" (with no name): Missing label or aria-label**
 - **Form field with no context: No label element or aria-labelledby used**
 - **See full list at <https://bit.ly/warning-table>**



Screen Reader Testing Tips 3 of 3

- **Keystrokes are just the starting point.**
- **Real fluency = knowing when and how to use each command.**
- **Not one-size-fits-all—your strategy shifts based on:**
 - **Page layout & structure**
 - **Your testing goal (read vs. interact)**
 - **The presence of headings, landmarks, or regions**



“It’s not just about knowing what key to press—it’s about choosing the right key at the right time, in the right context.”

Questions and Answers

Let's connect!

- **Deneb Pulsipher**
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 - <https://www.linkedin.com/in/deneb-pulsipher>
- **Kosi Asabere**
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 - <https://www.linkedin.com/in/kosi-asabere/>

Documentation Basics - 1 of 2

- **Spreadsheet (easiest for you)**
- **Word doc (easiest for remediation devs)**
- **What to include about the problem:**
 - **Name of problem**
 - **Contextualize in user experience**
 - **Screenshot**
 - **Code snippets**
 - **Current/problematic**
 - **Ideal**


Documentation Basics - 2 of 2

- **What to include about the suggestion:**
 - **Potential fix or what the new code should look like**
 - **Explanation of the better experience the fix will provide to screen reader users**
 - **updated experience**

Documentation Downloads

- Spreadsheet - whatever you use now
- Word/Google Doc - <https://bit.ly/sr-rec>
 - Give them both!
 - Some people think in spreadsheets
 - The rest of us just want some plain language
 - Plain language is especially helpful in exploring the experience
 - Help devs and owners imagine the experience
 - Check out our Experiential Imagination Guide (<https://bit.ly/sr-eig>)

Screen Reader Practice: The World is Your Oyster

- **Navigate to the website of your choice**
 - **Your own, your favorite, the bane of your existence**
- **Plan a time on a regular basis to practice with your screen reader**
 - **a dedicated half-hour  week will develop your proficiency and let you emulate a native better**

Appendix: Extra Goodies

- Additional Resources
- Screen Reader Expected Announcements and Behavior (cheat sheets)



Additional Resources

- California School for the Blind Screen Reader Training Course <https://srt.csb-cde.ca.gov/index.html>
- Paul J Adam's HTML Accessibility Obstacle Course <https://pauljadam.com/demos/obstacle-course.html>

Screen Reader Expected Announcements - 1 of 18

- **Basic Page Navigation Elements**
- **Page Loading**
 - **Expected Announcements:**
 - **"Page title: [title text]" (first thing on page load)**
 - **"Document loaded" or "Ready" (when page finishes loading)**
 - **How to Tell Something is Wrong:**
 - **No page title announced — you won't know what page you're on.**
 - **No confirmation when loading finishes — you may be unsure if the page is ready.**

Screen Reader Expected Announcements - 2 of 18

- **Headings**
 - **Expected Announcements:**
 - **"Heading level 1, [heading text]"** (for the main page title)
 - **"Heading level [2–6], [heading text]"** (for sections)
 - **How to Tell Something is Wrong:**
 - **You hear "Heading level [number], blank"** — the heading exists but has no text.
 - **Skipping heading levels when moving by heading (e.g., from level 1 to 4)** — indicates poor structure.

Screen Reader Expected Announcements - 3 of 18

- **Links**

- **Expected Announcements:**

- **"Link, [link text]"**
- **"Link, [link text], visited" (for visited links)**
- **"Link, graphic, [alt text]" (for image links)**

- **How to Tell Something is Wrong:**

- **You hear "Link" with no description — the link text is missing.**
- **You encounter a clickable area that isn't announced as a link — improper coding.**

Screen Reader Expected Announcements - 4 of 18

- **Images**
 - **Expected Announcements:**
 - **"Graphic, [alt text]" (for meaningful images)**
 - **Nothing (or "Graphic") for purely decorative images**
 - **How to Tell Something is Wrong:**
 - **You hear "Graphic" but no description for important images — the alt text is missing.**
 - **Critical images (like buttons made of images) are completely silent — means no accessible label.**

Screen Reader Expected Announcements - 5 of 18

- **Buttons**

- **Expected Announcements:**

- **"Button, [button text]"**

- **"Button, [name], pressed" or "not pressed" (for toggle buttons)**

- **"Button, [name], disabled" (for inactive buttons)**

- **How to Tell Something is Wrong:**

- **You hear "Button" with no name — the button label is missing.**

- **Toggle buttons do not announce whether they are pressed or not — state is missing.**

Screen Reader Expected Announcements - 6 of 18

- **Form Controls**
 - **Expected Announcements:**
 - "Edit, [label]" (for text fields)
 - "Edit, [label], required" (for required fields)
 - "Password edit, [label]" (for password fields)
 - "Edit, [label], invalid entry" (for fields with errors)
 - **How to Tell Something is Wrong:**
 - You hear "Edit" but no label — you don't know what information to enter.
 - Form errors (e.g., missing fields) are not announced — validation feedback is missing.

Screen Reader Expected Announcements - 7 of 18

- **Checkboxes and Radio Buttons**
 - **Expected Announcements:**
 - **"Checkbox, [label], checked" or "not checked"**
 - **"Radio button, [label], selected" or "not selected"**
 - **"Group, [group name]" (for radio button sets)**
 - **How to Tell Something is Wrong:**
 - **The checkbox or radio button name is missing — you can't tell what you're selecting.**
 - **Selection status (checked/unchecked, selected/not selected) is not announced.**

Screen Reader Expected Announcements - 8 of 18

- **Select Menus and Comboboxes**
 - **Expected Announcements:**
 - **"Combo box, [label]"**
 - **"Combo box, [label], [selected option]"**
 - **"Expanded" (when the menu is opened)**
 - **How to Tell Something is Wrong:**
 - **No announcement when you open a dropdown — screen reader can't tell it's expanded.**
 - **Options are hard to distinguish or unannounced.**

Screen Reader Expected Announcements - 9 of 18

- **Lists**
 - **Expected Announcements:**
 - "List with [number] items"
 - "List item, [text]" for each item
 - **How to Tell Something is Wrong:**
 - Lists are not recognized — the screen reader treats them like normal paragraphs.
 - List items are not announced individually.

Screen Reader Expected Announcements - 10 of 18

- **Tables**
 - **Expected Announcements:**
 - **"Table with [number] rows and [number] columns"**
 - **"Row header, [text]" or "Column header, [text]"**
when moving through cells
 - **How to Tell Something is Wrong:**
 - **Cells are announced without row/column context**
— users can't understand how data is organized.
 - **The table sounds like a plain grid with no relationships.**

Screen Reader Expected Announcements - 11 of 18

- **Landmarks and Regions**
 - **Expected Announcements:**
 - "Navigation landmark"
 - "Main landmark"
 - "Banner landmark"
 - "Contentinfo landmark" (for footers)
 - "Search landmark"
 - **How to Tell Something is Wrong:**
 - You can't jump quickly between major sections.
 - Landmarks aren't announced — the page feels like one long stream of content.

Screen Reader Expected Announcements - 12 of 18

- **Tabs**
 - **Expected Announcements:**
 - **"Tab list"**
 - **"Tab, [name], selected"**
 - **"Tab panel, [name]"**
 - **How to Tell Something is Wrong:**
 - **Tabs are not announced as a list.**
 - **You don't know which tab is selected.**

Screen Reader Expected Announcements - 13 of 18

- **Dialogs and Modals**
 - **Expected Announcements:**
 - **"Dialog" or "Dialog, [title]"**
 - **"Alert dialog, [message]"**
 - **"Button, Close" (for dismissal)**
 - **How to Tell Something is Wrong:**
 - **Modal popups appear but are not announced — users have no clue that focus shifted.**

Screen Reader Expected Announcements - 14 of 18

- **Expandable Content (Accordions, Details/Summary)**
 - **Expected Announcements:**
 - **"Button, [heading], collapsed" or "expanded"**
 - **"Disclosure triangle, [summary]"**
 - **How to Tell Something is Wrong:**
 - **Content expands or collapses visually but no change is announced by the screen reader.**

Screen Reader Expected Announcements - 15 of 18

- **Menus**
 - **Expected Announcements:**
 - **"Menu" or "Menu bar"**
 - **"Menu item, [name]"**
 - **"Menu item, [name], has popup"**
 - **"Menu item, [name], expanded"**
 - **How to Tell Something is Wrong:**
 - **Menu structure isn't announced — it sounds like isolated links.**
 - **Submenus open but no announcement of expanded state.**

Screen Reader Expected Announcements - 16 of 18

- **Dynamic Content and ARIA States**
 - **Expected Announcements:**
 - **"Updated content" (for polite or assertive updates)**
 - **"Status message" (for temporary updates)**
 - **"Progress bar, [percentage]"**
 - **How to Tell Something is Wrong:**
 - **Dynamic updates happen, but the screen reader stays silent.**
 - **No notification of progress changes or busy indicators.**

Screen Reader Expected Announcements - 17 of 18

- **Common Scenarios**
 - **Search Functions**
 - **"Edit, Search, [placeholder]"**
 - **"Button, Search"**
 - **"Search results, [count] items"**
 - **You may notice something is wrong if:**
 - **You can't tell when a search completes.**
 - **Results or no-results feedback is missing.**

Screen Reader Expected Announcements - 18 of 18

- **Learning and Practicing Tips**
 - **Start simple: Focus first on headings, links, and buttons.**
 - **Listen carefully: Missing roles, names, or states signal accessibility problems.**
 - **Notice patterns: Good sites have consistent, logical announcements.**
 - **Practice repeatedly: Use accessible sites like [gov.uk](https://www.gov.uk) or Deque University.**

Final Reminder

- **If at any time you cannot tell:**
 - **What an element is,**
 - **What its purpose is, or**
 - **What its state is,**
- **then something is wrong with the accessibility — and it can be detected without seeing the page, simply by listening.**