

ACCESSIBILITY TESTING 101



AGENDA

- What is Accessibility?
- Why make things Accessible?
- How do we decide what is Accessible?
- Building Accessibility Test Plans
 - Example Test Plans
- Tools & Resources

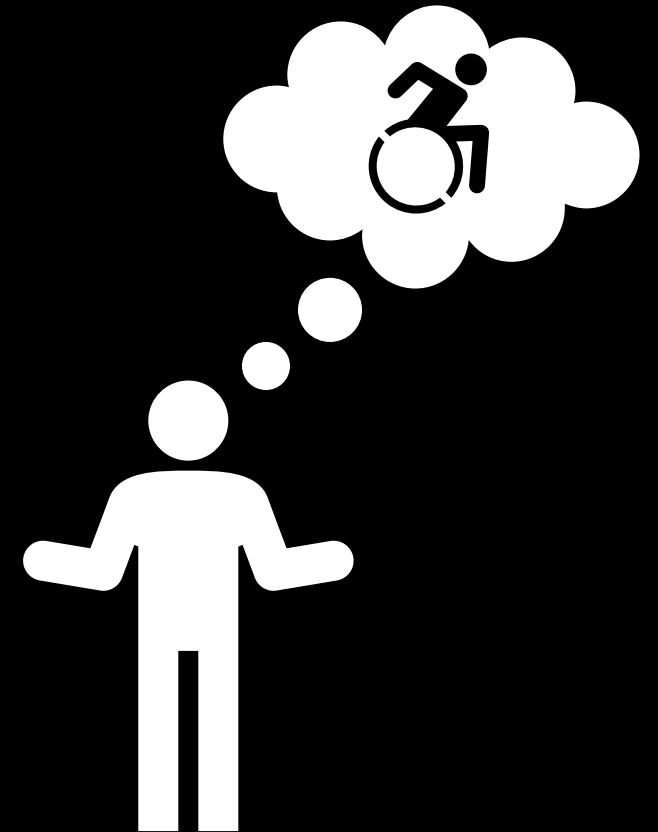
WHAT IS ACCESSIBILITY?

Accessibility

Disability

Assistive Technology

A11y



WHAT IS ACCESSIBILITY - CONTINUED

| Types | Time | Visibility |
|--|---------------------------------------|----------------------|
| Hearing Vision Mobility Comprehension | Temporary Situational Permanent | Visible Invisible |

WHY MAKE THINGS ACCESSIBLE?

By creating an experience where people can all access the same information and services, we help people:

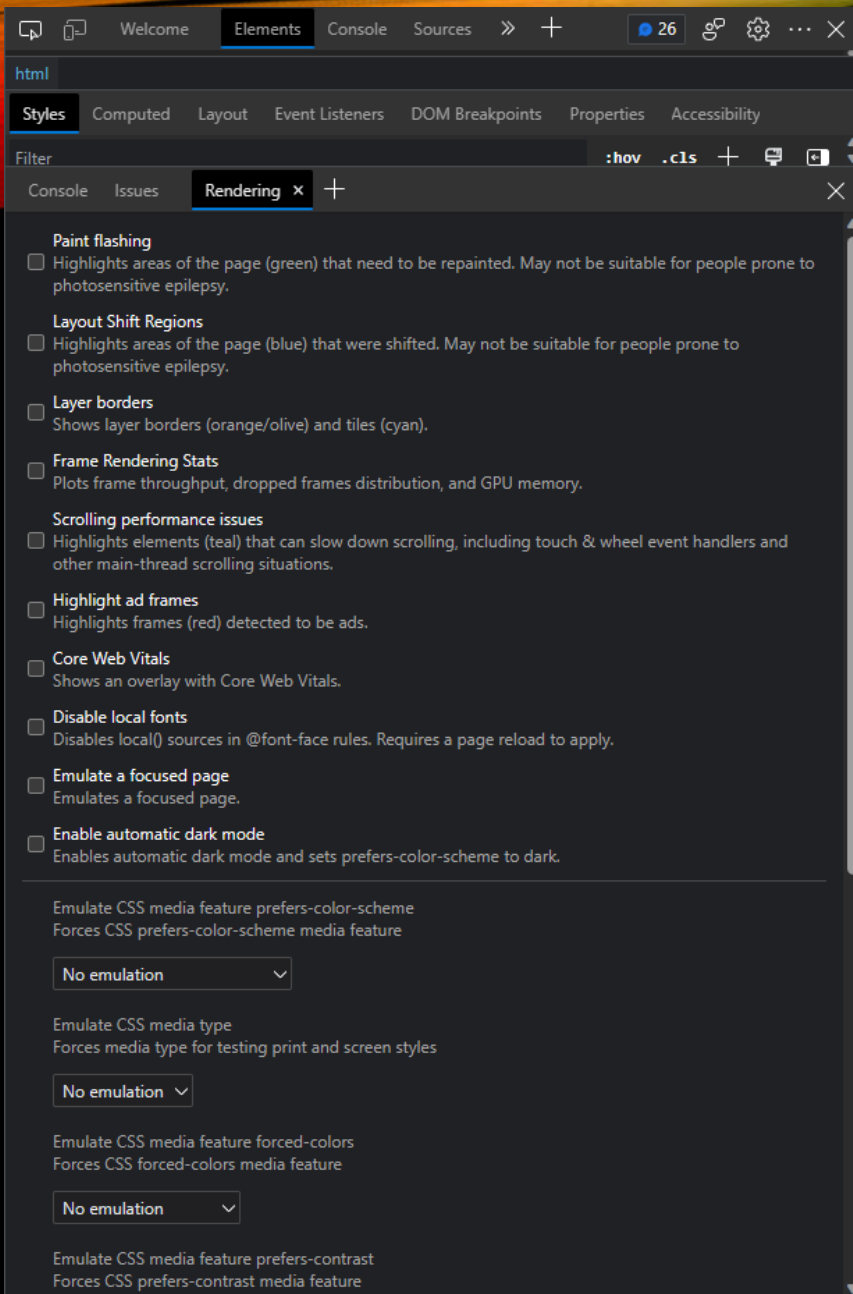
- make more informed choices for themselves and their communities
- Feel more welcome (employee/customer retention)
- Encourage diversity in our communities and workplaces
- Be more innovative
- Don't miss out on the market
 - [A Hidden Market: The Purchasing Power of Working-Age Adults With Disabilities | American Institutes for Research \(air.org\)](#)

HOW DO WE DECIDE WHAT IS ACCESSIBLE?

- **Experience**
- **User Feedback**
- **Guidelines**
 - Web Content Accessibility Guidelines (WCAG)
 - Authoring Tools Accessibility Guidelines (ATAG)
 - User Agent Accessibility Guidelines (UAAG)
 - Accessible Rich Internet Applications (ARIA)
 - Accessible Electronic Documents Community of Practice (AED COP)
- **Regulations**
 - Americans with Disabilities Act (ADA)
 - Section 508 of the Rehabilitation Act of 1973
 - Accessibility for Ontarians Act (AODA)
 - Learn more at: [Web Accessibility Laws & Policies](#) | [Web Accessibility Initiative \(WAI\)](#) | [W3C](#)

BUILDING ACCESSIBILITY TEST PLANS

- Shift left
- Manual and Automated
- Nothing without us
- Screen reader and Keyboard accessible
- Usually based around WCAG Guidelines
- Customize test methods for different environments:
 - Desktop, Mobile, Mobile Web, Native App
 - Chrome, Firefox, Edge, or other browsers
- **Example Test Methods/Plans:**
 - [VGAR](#) – Visa Global Accessibility Requirements
 - [Section 508 ICT Testing Baseline for Web](#) - This Baseline identifies the minimum requirements of any test process used to determine conformance of web content with the Revised Section 508 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794d)



The image shows the Chrome DevTools interface with the 'Rendering' tab selected. The 'Filter' is set to ':hov .cls'. The 'Rendering' tab is active, showing various rendering-related options:

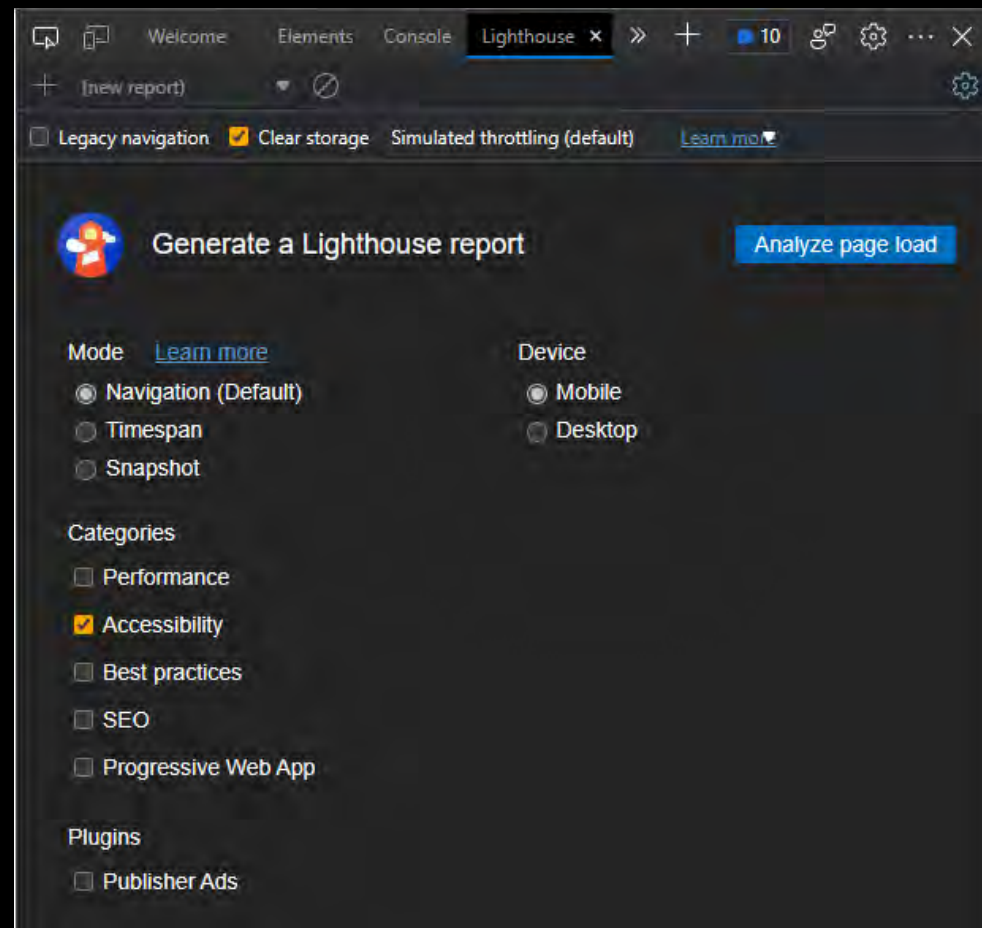
- Paint flashing**
 - Highlights areas of the page (green) that need to be repainted. May not be suitable for people prone to photosensitive epilepsy.
- Layout Shift Regions**
 - Highlights areas of the page (blue) that were shifted. May not be suitable for people prone to photosensitive epilepsy.
- Layer borders**
 - Shows layer borders (orange/olive) and tiles (cyan).
- Frame Rendering Stats**
 - Plots frame throughput, dropped frames distribution, and GPU memory.
- Scrolling performance issues**
 - Highlights elements (teal) that can slow down scrolling, including touch & wheel event handlers and other main-thread scrolling situations.
- Highlight ad frames**
 - Highlights frames (red) detected to be ads.
- Core Web Vitals**
 - Shows an overlay with Core Web Vitals.
- Disable local fonts**
 - Disables local() sources in @font-face rules. Requires a page reload to apply.
- Emulate a focused page**
 - Emulates a focused page.
- Enable automatic dark mode**
 - Enables automatic dark mode and sets prefers-color-scheme to dark.

Below these options, there are four emulation settings, each with a 'No emulation' dropdown:

- Emulate CSS media feature prefers-color-scheme: Forces CSS prefers-color-scheme media feature
- Emulate CSS media type: Forces media type for testing print and screen styles
- Emulate CSS media feature forced-colors: Forces CSS forced-colors media feature
- Emulate CSS media feature prefers-contrast: Forces CSS prefers-contrast media feature

TOOLS AND RESOURCES

BUILT-IN TO BROWSERS



The image shows the Chrome DevTools interface with the 'Lighthouse' tab selected. The 'Lighthouse' tab is active, showing the 'Generate a Lighthouse report' button and various configuration options:

- Generate a Lighthouse report** (button)
- Analyze page load** (button)
- Legacy navigation** (checkbox)
- Clear storage** (checkbox)
- Simulated throttling (default)** (checkbox)
- Learn more** (link)

Configuration options:

- Mode** (Learn more link)
 - Navigation (Default)
 - Timespan
 - Snapshot
- Device**
 - Mobile
 - Desktop

Categories:

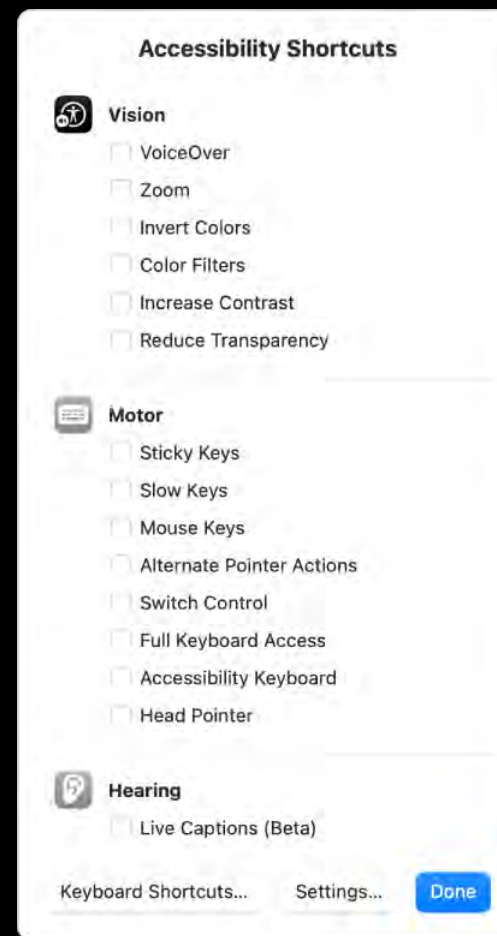
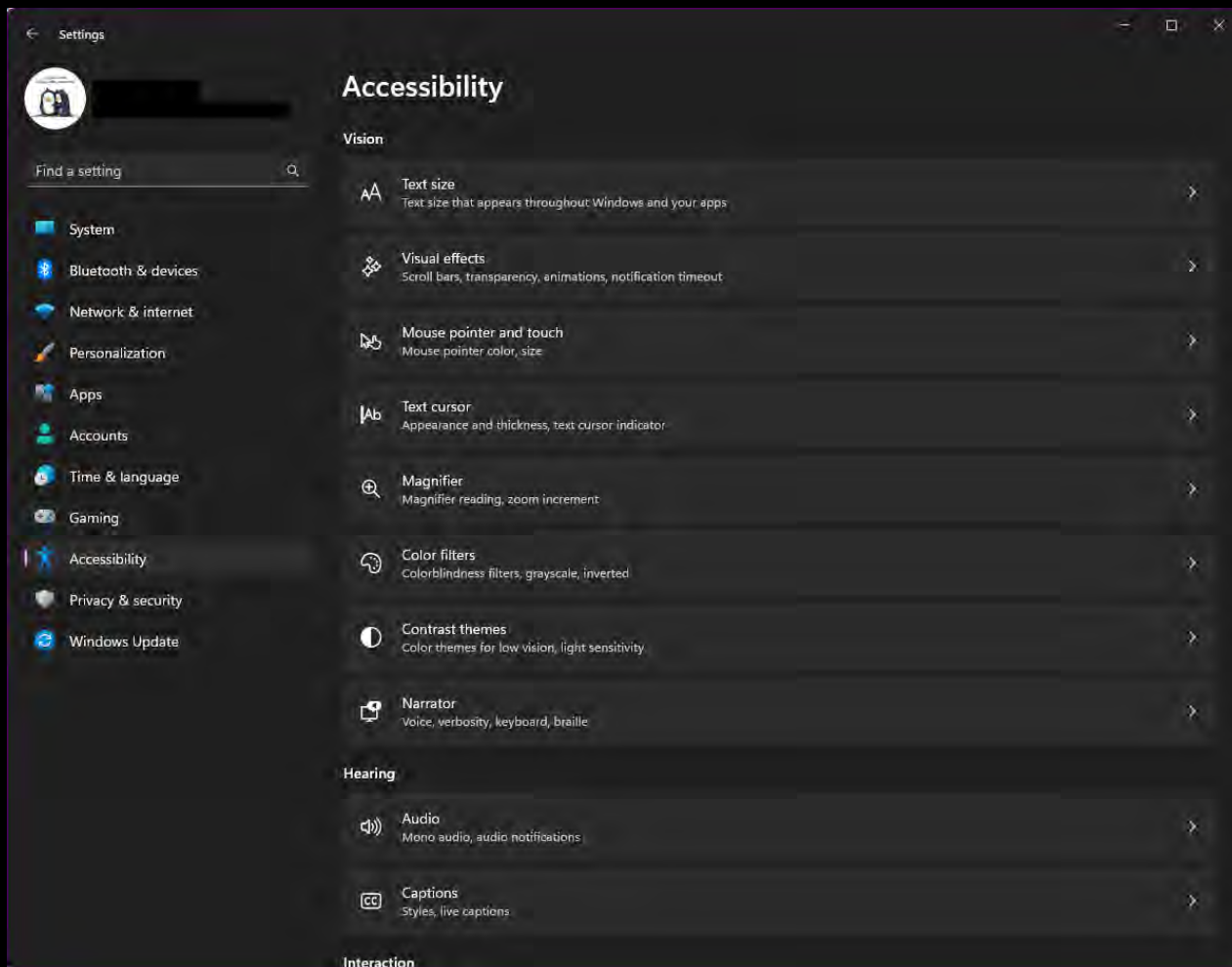
- Performance
- Accessibility
- Best practices
- SEO
- Progressive Web App

Plugins:

- Publisher Ads

TOOLS AND RESOURCES

BUILT-IN TO OPERATING SYSTEM



TOOLS AND RESOURCES

CCA BY TPGI

Colour Contrast Analyser (CCA) Edit View Development

Foreground colour **#FFE76D**

Background colour **#FFFFFF** (white)

Sample preview: example text showing contrast

WCAG 2.1 results Contrast ratio **1.2:1**

- 1.4.3 Contrast (Minimum) (AA) **Fail**
 - Fail (regular text)
 - Fail (large text)
- 1.4.6 Contrast (Enhanced) (AAA) **Fail**
 - Fail (regular text)
 - Fail (large text)
- 1.4.11 Non-text Contrast (AA) **Fail**
 - Fail (UI components and graphical objects)

Colour Contrast Analyser (CCA) Edit View Development

Foreground colour **#000000** (black)

Background colour **#FFFFFF** (white)

Sample preview: example text showing contrast

WCAG 2.1 results Contrast ratio **21:1**

- 1.4.3 Contrast (Minimum) (AA) **Pass**
 - Pass (regular text)
 - Pass (large text)
- 1.4.6 Contrast (Enhanced) (AAA) **Pass**
 - Pass (regular text)
 - Pass (large text)
- 1.4.11 Non-text Contrast (AA) **Pass**
 - Pass (UI components and graphical objects)

TOOLS AND RESOURCES

MICROSOFT ACCESSIBILITY INSIGHTS

Accessibility Insights for Web
Watch 3-minute video introduction

Launch pad

- FastPass**
Run three tests to find the most common accessibility issues in less than 5 minutes.
- Assessment**
Walk through a guided process for assessing accessibility compliance.
- Ad hoc tools**
Get quick access to visualizations that help you identify accessibility issues.

Version 2.38.1 | Powered by [axe-core](#) 4.6.3

Accessibility Insights for Web

Assessment

Target page: Facebook

Overview

This page contains a summary that indicates the progress of your assessment. An assessment is a manual experience in which you navigate through a set of tests that cover all WCAG 2.1 AA success criteria. Each test has one or more requirements that can be:

- Automated
- Assisted
- Manual

Where possible, Accessibility Insights for Web "assists" the test process by generating a list of instances to evaluate and highlighting them on the screen. Accessibility Insights for Web also allows you to manually record failure instances.

Summary

0% 100% 0%

Test details

| | |
|--------------------|--------|
| Automated checks | 57 |
| Keyboard | 000000 |
| Focus | 00000 |
| Landmarks | 000 |
| Headings | 000 |
| Repetitive content | 000 |
| Links | 000 |

Accessibility Insights for Web

FastPass

Target page: Facebook

Automated checks Step 1 of 3

Automated checks can detect some common accessibility problems such as missing or invalid properties. But most accessibility problems can only be discovered through manual testing. The best way to evaluate web accessibility compliance is to complete an [assessment](#).

Failed instances 9

Expand all Visual helper

- aria-hidden-focus** 3: Ensures aria-hidden elements are not focusable nor contain focusable elements
- aria-required-children** 1: Ensures elements with an ARIA role that require child roles contain them
- svg-img-alt** 5: Ensures <svg> elements with an img, graphics-document or graphics-symbol role have an accessible text

TOOLS AND RESOURCES

BROWSER EXTENSIONS & WEB APPS

WAVE powered by WebAIM
web accessibility evaluation tool

Styles: OFF ON

Summary

Errors: 0
Alerts: 2
Structural Elements: 12

Contrast Errors: 0
Features: 13
ARIA: 21

View details

Congratulations! No errors were detected! Manual testing is still necessary to ensure compliance and optimal accessibility.

The following apply to the entire page:

Skip to main content

Home Resume A11y Blog
Shop Contact

aria-label="CorgiDev Logo"
aria-label="Main Navigation"

h1 Welcome to CorgiDev!

h2 New Blog!

I created a new blog page to share my thoughts called "CorgiDev Thoughts." Check it out using the Blog link in the top navigation, or using the following link: [Blog page](#).

h2 New shop!

I created a Redbubble shop with my CorgiDev... some neat gear. Check out the [Shop](#) link at the top of each page.

axe DevTools
axe-core 4.7.0

Unlock all extension features. Try for free, no payment required!

Let's get started

You're **one click away** from scanning your site with the most widely used and **trusted accessibility tool in the world**.

Scan ALL of my page
Scan PART of my page


OR

Start an Intelligent Guided Test
Select an IGT, we'll scan your entire page, and then you can start testing! [Learn more about IGTs!](#)

Table
Keyboard
Modal Dialog
Interactive Elements
Structure
Images

TOOLS AND RESOURCES

BROWSER EXTENSIONS & WEB APPS



Markup Validation Service

Check the markup (HTML, XHTML, ...) of Web documents

[Validate by URI](#) [Validate by File Upload](#) [Validate by Direct Input](#)


Validate by URI

Validate a document online:

Address:

[▶ More Options](#)




This validator checks the [markup validity](#) of Web documents in HTML, XHTML, SMIL, MathML, etc. If you wish to validate specific content such as [RSS/Atom feeds](#) or [CSS stylesheets](#), [MobileOK content](#), or to [find broken links](#), there are [other validators and tools](#) available. As an alternative you can also try our [non-DTD-based validator](#).



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TOOLS AND RESOURCES

BOOKMARKLETS

- [Find Landmarks on Web Page with A11Y Bookmarklet | HolisticA11Y](#)
- [Forms Bookmarklet for Accessibility Testing \(pauljadam.com\)](#)
- [ARIA Bookmarklet for Accessibility Testing \(pauljadam.com\)](#)
- **Text spacing bookmarklet - [Bookmarklets \(dylanb.github.io\)](#)**
- **Assorted Accessibility Bookmarklets for Landmarks, Headings, and more: [Accessibility Bookmarklets \(accessibility-bookmarklets.org\)](#)**
- [ANDI - Accessibility Testing Tool - Install \(ssa.gov\)](#)

TOOLS AND RESOURCES

ADDITIONAL RESOURCES

- [Accessibility Insights](#) – Accessibility testing tool made by Microsoft
 - Has browser extension and desktop application versions
 - Also have the option to include the automated tests in CI/CD
 - DON'T depend on automated tests
- [NVDA](#) – free, open-sourced screen reader
 - View keyboard shortcuts on at the Deque article entitled: [NVDA Keyboard Shortcuts](#).
- **Narrator** – screen reader built-in to Windows.
 - View keyboard shortcuts for Narrator in the Deque article entitled [Narrator Keyboard Shortcuts](#).
- **VoiceOver** – is a built screen reader found on iOS and MacOS devices.
- **TalkBack** – is a built screen reader found on iOS and MacOS devices.
- [Microsoft Accessibility](#) on Twitter at [@MSFTEnable](#) and at on the [Microsoft Accessibility page](#).
- [Microsoft Accessibility Fundamentals course](#)
- [ANDI](#) – Bookmark applet developed by the Social Security Administration to aid in Accessibility testing.
- [Accessibility - Erissa Duvall \(corgidev.com\)](#)

THANK YOU!

- <https://corgidev.com>
- <https://github.com/CorgiDev/A11y-Materials> - Under Presentations/2023 Presentations

