

Breaking Barriers: A Practical Guide to WCAG and Accessibility Testing

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Who Am I?



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What I Do:

I lead and help teams build better software by focusing on quality and from day one.

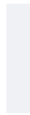
Why I'm Here:

I believe accessibility is simply part of doing good work, and I want to show you how to make it easier to get started.

What You'll Learn Today



Why Accessibility Matters	Not just compliance, it's about inclusive design for real people
Forms of Limitations	Sensory, physical, cognitive, and situational challenges users face
WCAG - What You Need to Know	Principles, guidelines, and success criteria made practical
Example Criteria Explained	Alt text, keyboard control, contrast, labels, and more
Tools You Can Use Right Now	Browser extensions, screen readers, and quick accessibility checks
Accessibility in Daily Workflows	Small steps you can start today to make a big difference



Why Accessibility?

It's not just about compliance

- Over 1 billion people live with a disability
- Most disabilities are invisible
- Accessibility helps everyone, not just “them”
- It's not extra work, it's the right work



Forms of Limitations

Sensory and Physical Disabilities

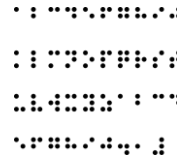
- Visual impairments or blindness
- Deafness or hearing loss
- Motor disabilities that limit mouse or touch use

Cognitive Limitations

- Dyslexia, attention or memory challenges
- Seizure or reading disorders
- Need for clear structure and predictable design

Limited or Situational Abilities

- Temporary injuries or fatigue
- Distractions, noisy or bright environments
- Using a device one-handed or on the move



WCAG

WCAG - A Quick Introduction

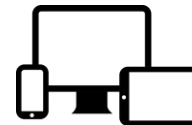
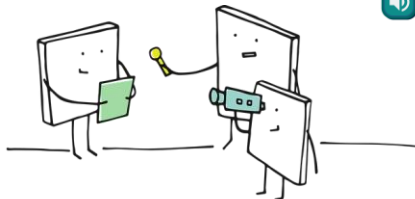
- Web Content Accessibility Guidelines (WCAG)
 - Global standard for digital accessibility
- Developed by the W3C
- WCAG defines how to make web content more accessible for everyone, especially people with disabilities
- Focused on four key principles:
 - Perceivable, Operable, Understandable, Robust (POUR)



POUR – The Four Guiding Principles

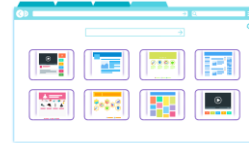
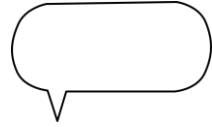
Digital content must be:

- **Perceivable:** Users can sense it (e.g. see, hear, or touch)
 - Alt text, captions
- **Operable:** Users can interact with it
 - Can users navigate through the site?
- **Understandable:** Users can comprehend it
 - Labels clear? UI behaves expectedly?
- **Robust:** Compatible with current and future tech
 - Screen readers, future browsers



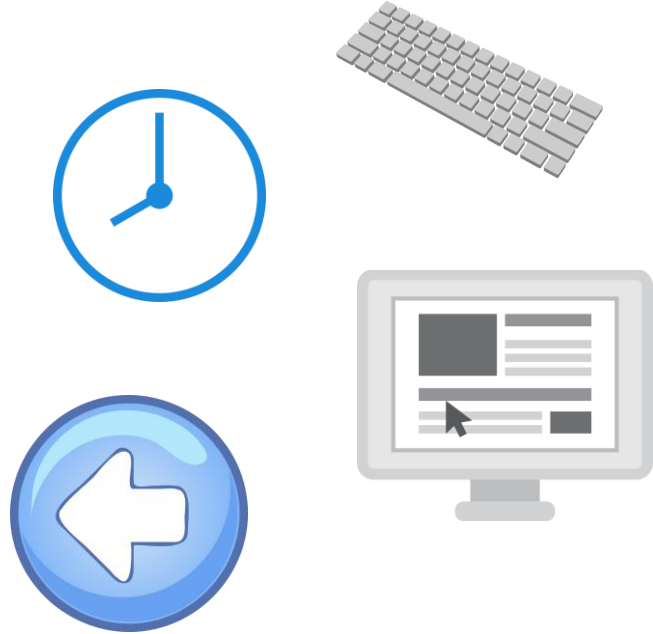
Perceivable – Make It Visible and Sensible

- **Text Alternatives (1.1.1):** Provide alt text for images
- **Captions & Audio Descriptions (1.2.x):** Include for video/audio content
- **Flexible Layouts:** Support zoom, reflow, contrast changes
- **Use of Color:** Don't rely on color alone to convey meaning



Operable – Make It Usable by Anyone

- **Keyboard Accessible (2.1.x):** All functions usable without a mouse
- **Enough Time:** Users can adjust or turn off time limits
- **Avoid Seizure Triggers (2.3):** No flashing
- **Clear Navigation:** Focus indicators, consistent menus



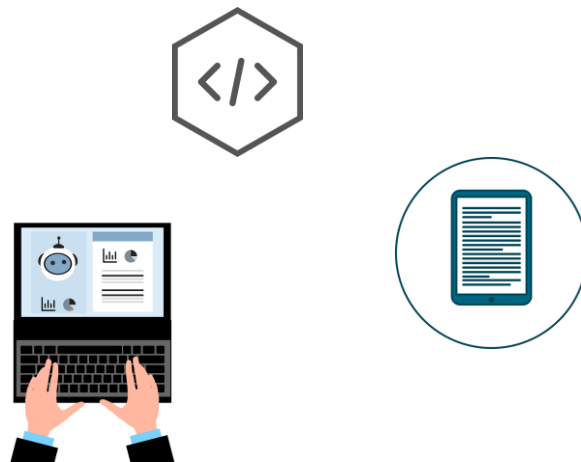
Understandable – Keep It Clear and Predictable

- **Readable Language:** Use plain language, define jargon
- **Predictable UI (3.2):** Keep layout and behavior consistent
- **Help & Error Handling:** Show clear error messages, offer correction tips



Robust – Make It Work with Assistive Tech

- **Clean, Valid Code:** Use proper HTML semantics
- **ARIA Landmarks:** Help screen readers understand structure
- **Support Future Tech:** Compatible with browsers, screen readers, etc.



WCAG Success Criteria

- What are Success Criteria?
 - Clear, testable rules that determine whether a digital product is accessible
 - Each maps to one of the 4 core WCAG principles:
 - Perceivable, Operable, Understandable, Robust (POUR)
- Three Levels of Conformance:
 - Level A - Basic accessibility (minimum must-have)
 - Level AA - Strong accessibility (often a legal requirement)
 - Level AAA - Enhanced accessibility (ideal, but not always feasible)





Example WCAG success criteria

Alt Text for Non-Text Content

(1.1.1 – Level A)

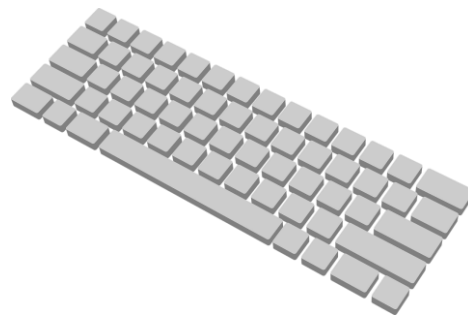
- Success Criterion 1.1.1 - Non-text Content
 - Provide text alternatives for any content that is not text
- Applies to: Images, icons, charts, CAPTCHAs, buttons with images
- Why it matters:
 - Screen readers can describe visual elements
 - Helps when images fail to load
- Good Example:
 - ``
- Bad Example:
 - `` => No alt means lost context



Keyboard Accessibility

(2.1.1 – Level A)

- Success Criterion 2.1.1 - Keyboard
 - All functionality must be operable through a keyboard.
- Applies to: Forms, dropdowns, modals, sliders, buttons
- Users with mobility impairments, power users, screen reader users
- Good:
 - Tab to navigate
 - Enter or space to activate buttons
 - Focus visible on each element
- Bad:
 - Can't reach parts of the site without a mouse
 - Traps user inside a modal with no escape



Use of Color



(1.4.1 – Level A)

- Success Criterion 1.4.1 – Use of Color
 - Color "cannot be the only" means of conveying information.
- Colorblind users may not perceive red vs green
- Good:
 - Show error with color + icon + text
 - Underline links, not just color them
- Bad:
 - "All fields in red are required"
 - Status: Green = Success, Red = Error (without other cues)



Contrast Ratio – Text and Images of Text

(1.4.3 – Level AA)

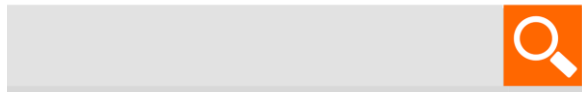
- Success Criterion 1.4.3 – Contrast (Minimum)
 - Text must have a contrast ratio of at least 4.5:1 (for normal-sized text) with its background.
- Especially important for users with low vision, color blindness, or aging eyes
- Examples:
 - Dark gray on white =  (High contrast)
 - Light gray on white =  (Fails contrast check)
- Tools:
 - WebAIM Contrast Checker
 - Chrome DevTools -> Accessibility pane
 - WCAG Contrast Checker Browser Extension



Labels and Instructions

(3.3.2 – Level A)

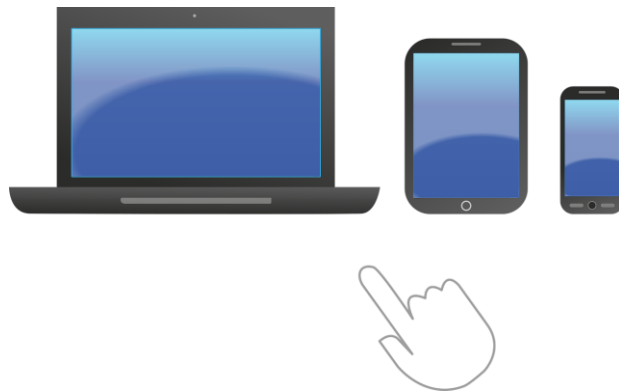
- Success Criterion 3.3.2 – Labels or Instructions
 - Inputs must include clear labels or instructions when user input is required.
- Applies to: Forms, surveys, login screens
- Good:
 - "Email address (required)"
 - Placeholder AND persistent label
- Bad:
 - Empty input with only a placeholder that disappears
 - Icons with no label



Responsive and Reflowable

(1.4.10 – Level AA)

- Success Criterion 1.4.10 – Reflow
 - Content must remain readable without horizontal scrolling at 320px width.
- Why:
 - Supports mobile and zoomed-in users
 - Essential for users with low vision
- Good:
 - Responsive CSS layout
 - Content stacks vertically on small screens
- Bad:
 - Fixed-width containers
 - Horizontal scroll to read paragraphs





Tools



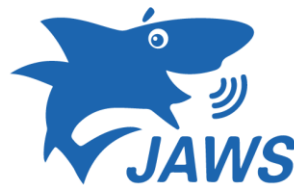
Browser Extensions for Quick Accessibility Checks

- axe DevTools
 - Automated accessibility scanner
 - Highlights issues in real-time within DevTools
- WAVE (Web Accessibility Evaluation Tool)
 - Visual annotations of accessibility errors on your page
 - Great for designers and QA tester
- Siteimprove Accessibility Checker
 - Highlights WCAG issues and provides in-context recommendations
 - Great for non-technical teams and content editors
- HeadingsMap
 - Shows the structure of headings (H1-H6) on a page
 - Helps ensure a logical content hierarchy
- Color Contrast Analyzer
 - Tests contrast ratios directly in the browser
 - Essential for visual accessibility checks



Screen Readers – NVDA & JAWS

- NVDA (NonVisual Desktop Access)
 - Free, open-source screen reader for Windows
 - Widely used by testers, developers, and everyday users
 - Lightweight, fast, and highly compatible with browsers and apps
- JAWS (Job Access With Speech)
 - Industry-standard screen reader for enterprise environments
 - Supports complex applications and workflows
 - Requires a license (paid)





Next Step



What's Your Next Step?

- Start small, but start now:
 - Try browsing your site with a keyboard only
 - Run axe DevTools or Siteimprove on a key page
 - Add alt text to one new image
 - Test your latest form for clear labels and instructions
- Build Accessibility Habits:
 - Review headings and contrast in your designs
 - Check focus indicators during development
 - Ask: "Can this content be understood without sight, sound, or color?"
- Accessibility is a journey, not a finish line..





Let's connect!

Thank you!
Any questions?