



Accessibility is Whole Team Responsibility

Building State Digital Platform

NCDIT Digital
Solutions

About Us

NCDIT Digital Solutions team supports
State of North Carolina Drupal based CMS
Digital Commons



NCDIT Digital Solutions:

- Marla Laubisch, Software Test Engineer
- Elena Talanker, Digital Services Manager



Agenda

Accessibility is Whole Team Responsibility

- Digital accessibility from recommended to required.
- Create accessible digital content.
- Test for accessibility before deployment.

New DOJ rule

Digital accessibility from
recommended to required.



Accessibility for all



Digital accessibility for all

Why now?

Everything moved online including government services

D.O.J. Accessibility Rule for State and Local Governments

- On April 24, 2024, the Federal Register published the Department of Justice's [final rule](#) updating its regulations for Title II of the Americans with Disabilities Act (ADA).

Requirement:

- The Web Content Accessibility Guidelines (WCAG) Version 2.1, Level AA is the **technical standard** for state and local governments' web content and mobile apps.


Who is responsible ?

Everyone

Same as Title II of ADA

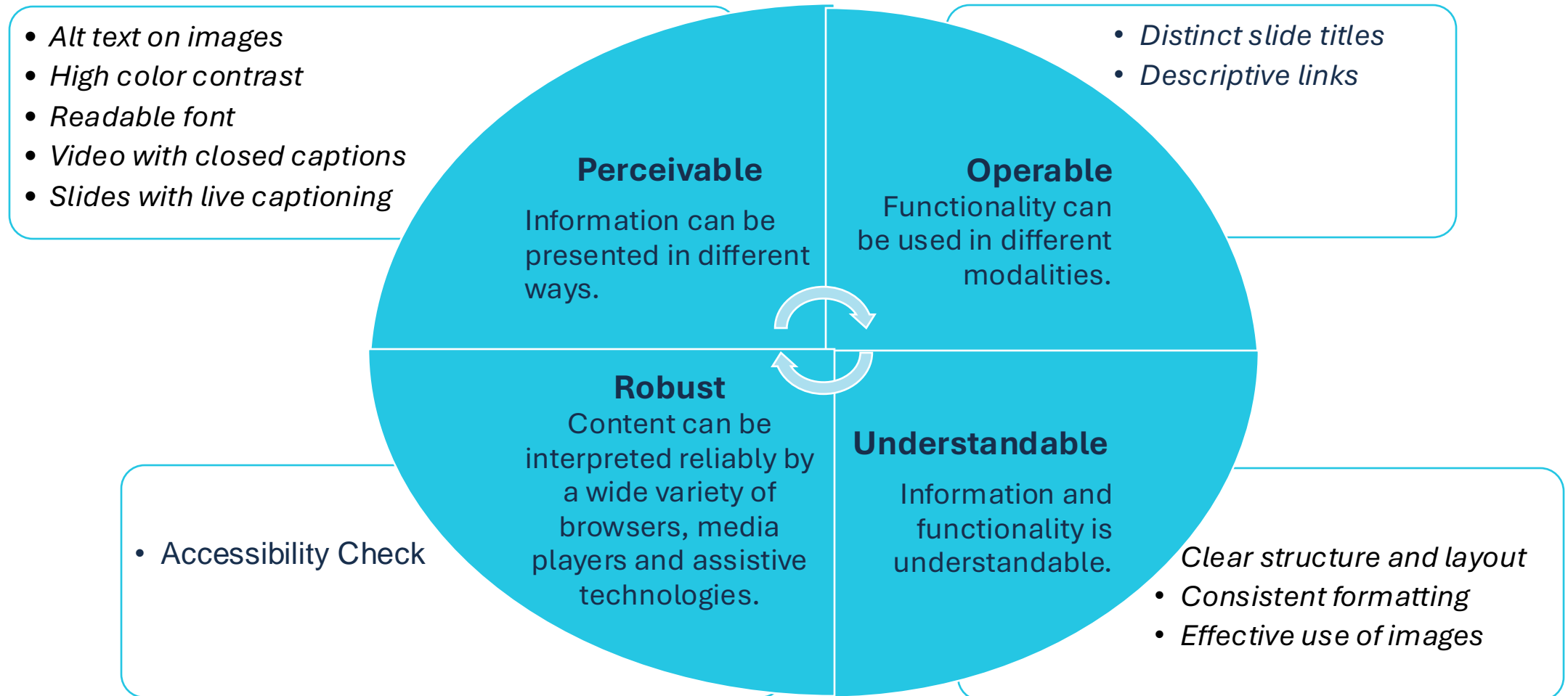


- All state and local governments, including any agency or department of state or local governments.
- Including libraries, public schools, community colleges, and public universities.
- Contracted entities of state/local governments.

- 
- Everyone involved in the creation, management, procurement, maintenance of digital content holds responsibility for ensuring accessibility

WCAG 2.1

WCAG 2.1 requires that all websites and digital services follow four main principal guidelines:



Types of digital content

Digital accessibility applies to various types of content

- **Web content:** Ensuring that web pages are navigable and understandable by users with disabilities.
- **Documents:** Making PDFs, Word documents, and other formats accessible with proper formatting and tags.
- **Multimedia:** Providing captions, transcripts, and audio descriptions for videos and audio content.

- **Software and Applications:** Designing software interfaces and mobile apps that are operable by users with different abilities.
- **Online Forms:** Creating forms that are easily navigable and usable with assistive technologies.

Where is State of North Carolina ?

Digital Solutions team leads accessibility awareness initiatives for state government

N.C. Accessibility and Usability Standard

- [The standard](#) is to prioritize a digital-first public experience for 10 million North Carolinians who interact with state government online.
- WCAG 2.1 (Level AA) Compliance
- Consistent Visual Design and Agency Brand Identity
- Optimized for Search
- User-Centered Design
- Responsive, Mobile-First Design
- Digital options for forms
- Write in plain language (8th grade level)



State agencies have less than TWO years until April 24, 2026 to make sure that their web content and mobile apps meet DOJ requirements.

Start before content

Three pillars of accessibility by Digital Solutions



Our approach

Consider accessibility at every step from **platform development** to **testing** and **content creation**.



Platform Accessibility



Creating Accessible Content



Testing

Step 1 - Platform accessibility

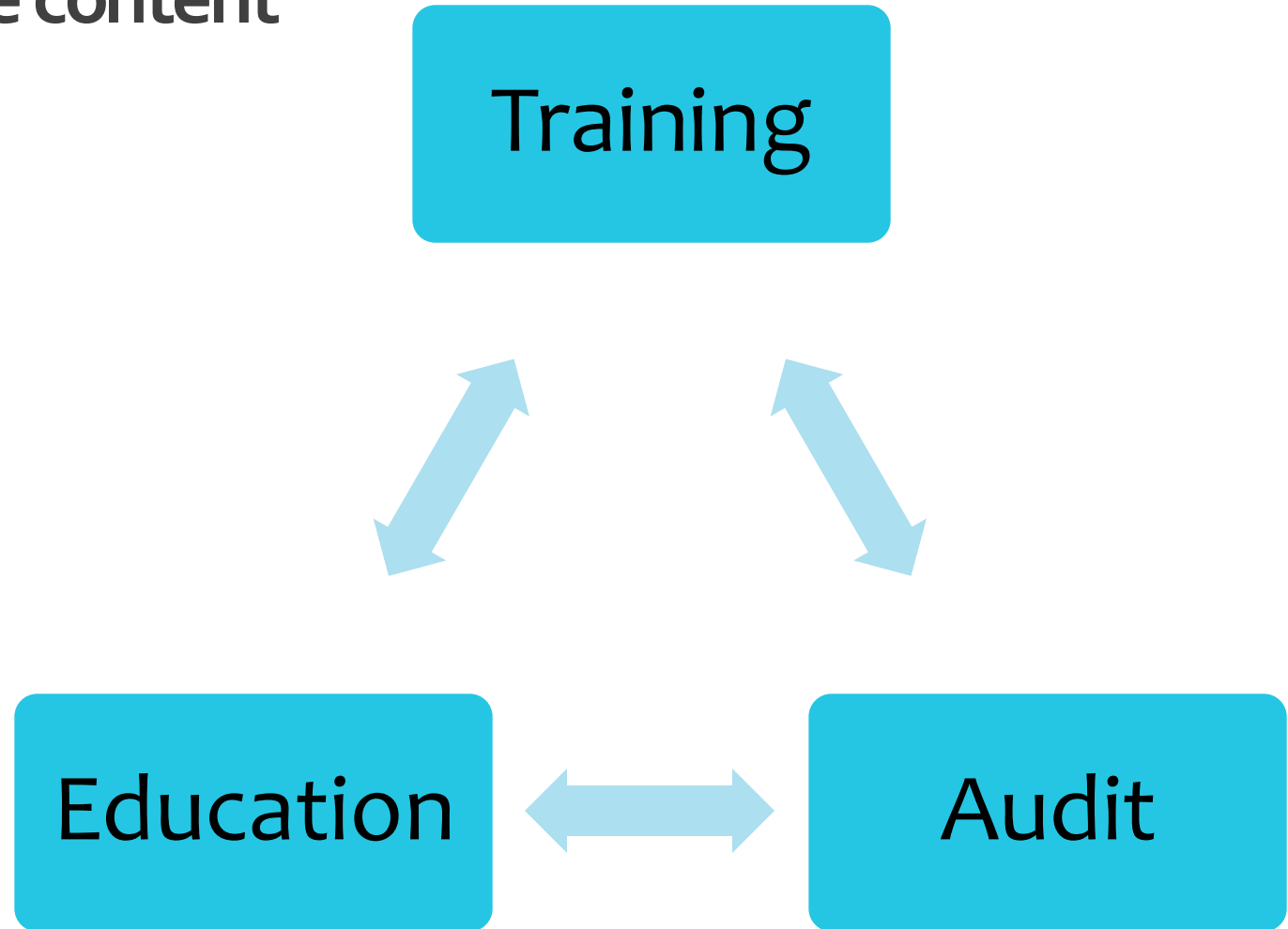
An official website of the State of North Carolina [How you know](#) ✓

nc.gov



Take Control of Your Online Presence with Digital Commons

Step 2 – Creating accessible content



Website quality assurance & accessibility monitoring

Start with *Editoria11y* and audit with *Monsido*

- *Editoria11y* automatically tests for accessibility and explains how to correct them while content is developed by users on the admin back-end.
- *Monsido* tool is a SaaS solution that scans public website facing content, just like *Google*, and provides detailed reports on:
 - Quality Assurance
 - Accessibility
 - Readability
 - SEO
 - Statistics

Training & community outreach



[Accessibility training](#)



[Blogs](#)



[Monthly Newsletters](#)



Sprint Reviews



Teams channels

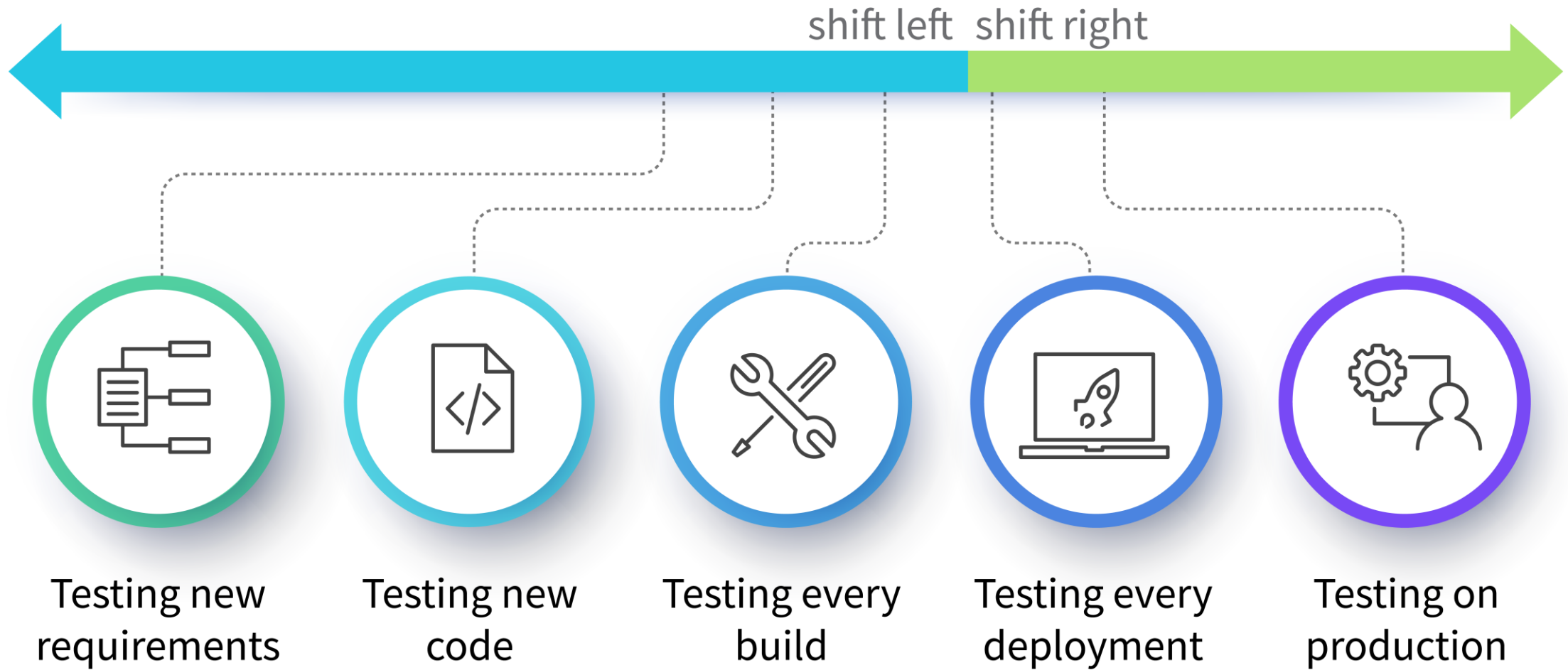


A photograph of a modern workspace. A silver laptop is open on a light gray desk. To its left is a white smartphone. Behind the laptop is a stack of books. In the background, a pair of black headphones and a small potted plant are visible. The scene is brightly lit, suggesting a clean, professional environment.

A11y First


Catching issues before deployment

Test early, test often



Building a test suite pays off


Description field, image



This is a link


This Article Card has a description, a link, an image, no background color.

id=#B8



This is a link


This Article Card has a description, a link, an image, Accent background color.



MAY 1, 2023

This is a link

This Article Card has a description, a link, an image, a date, Dark background color.



APRIL 25, 2023

This is a link

This Article Card has a description, a link, an image, a date, Light background color.


Container, Letterbox, 2 slides, autoplay

Slide Category

All default fields used


Ut quis tellus sed dui gravida convallis at quis risus.

Link Text





● ○ ||

14 Jun ...



VRT Event with Title long enough to wrap to two lines

 Sun, Jun 14 2020, 9am - Mon, Jun 15 2020, 10am

 [Phillips Building](#)
[109 E North street, Raleigh, NC 27601](#)

Register


With Other Paragraph Types

CTA Card

Article Card

Quick Links

id=#Tab-CTACard-1684. CTA Card in Sidebar. The accordion is widely spread across the world because of the waves of immigration from Europe to the Americas and other regions. In some countries (for example: Argentina, Brazil, Colombia, the Dominican Republic, Mexico, and Panama) it is used in popular music.



Free Reeds

The accordion uses free reeds driven by a bellows

Profile and CTA

View Embed

HTML Table

Kitchen Sink



Firstname Lastname

Profile in content area

id=#Tab-ProfileandCTA-1688



CTA Card

In the sidebar

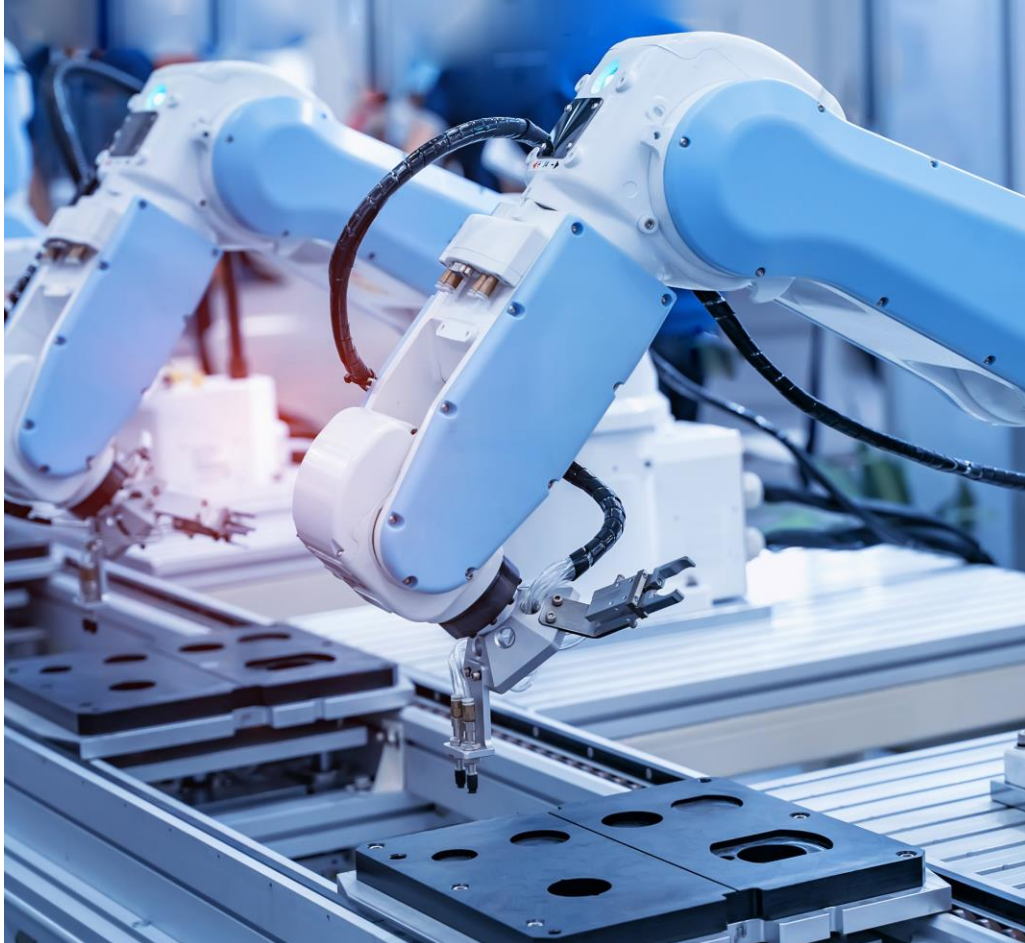


Our Testing Methods

No one solution to rule them all

- Automated
- Semi-automated
- Manual

Benefits of automated testing

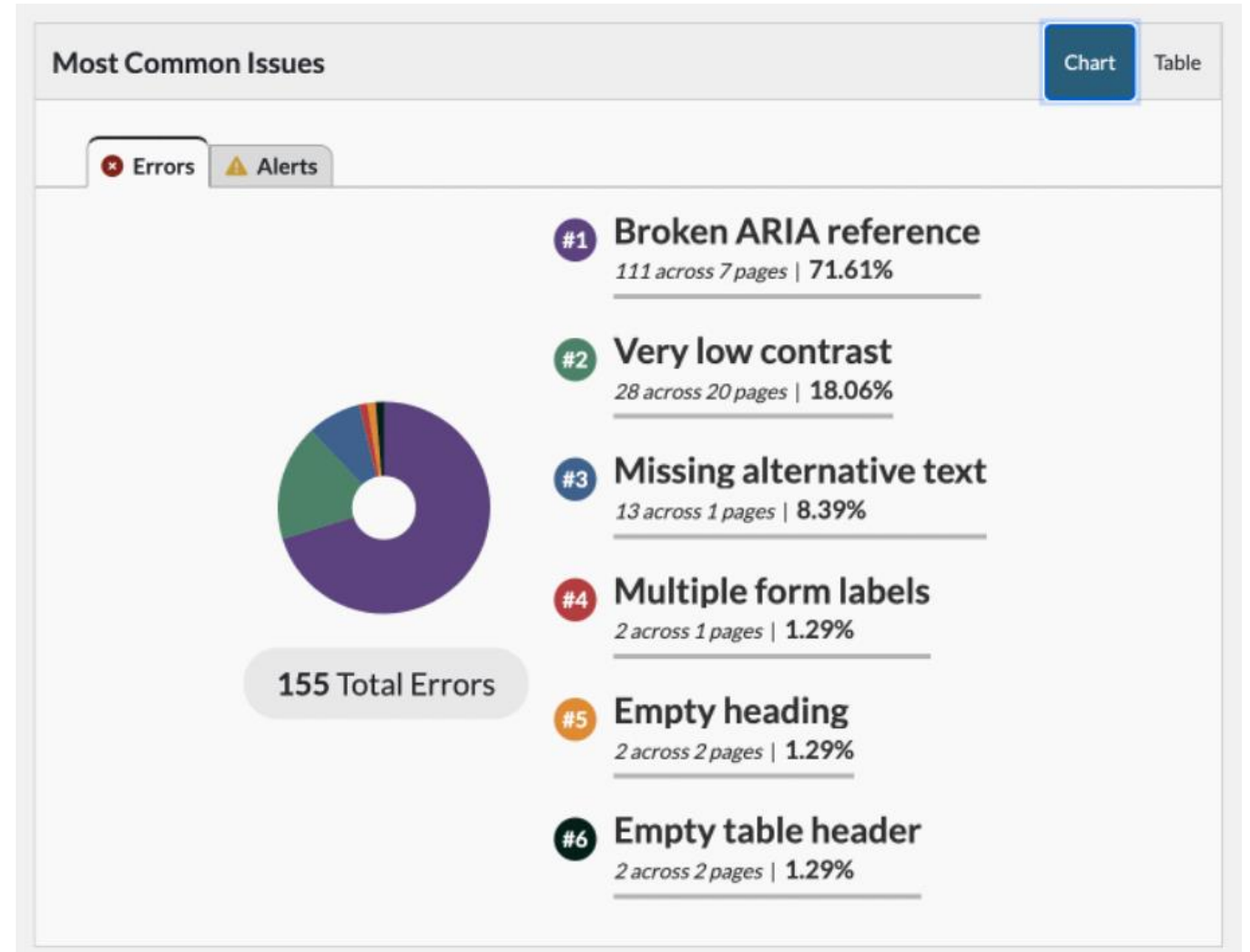


-
- Cost/speed
 - Coverage
 - Accuracy
 - Repeatability
 - Reporting

A11y testing with Popetech



- Automatically finds accessibility issues on designated websites
- Scheduled to work with our development cadence
- Flags ARIA and structural errors
- Provides a record of issues
- Integrated with JIRA to create tickets from results



Popetech reporting



ARIA alert or live region

What it means

An ARIA alert role or live region is present.

Why it matters:

ARIA live regions and alerts can be used to dynamically inform screen reader users of content updates.

How to fix it:

Ensure the live region is properly tested and presents important, succinct content updates. A live region should not be used if focus is set to the updated page element.

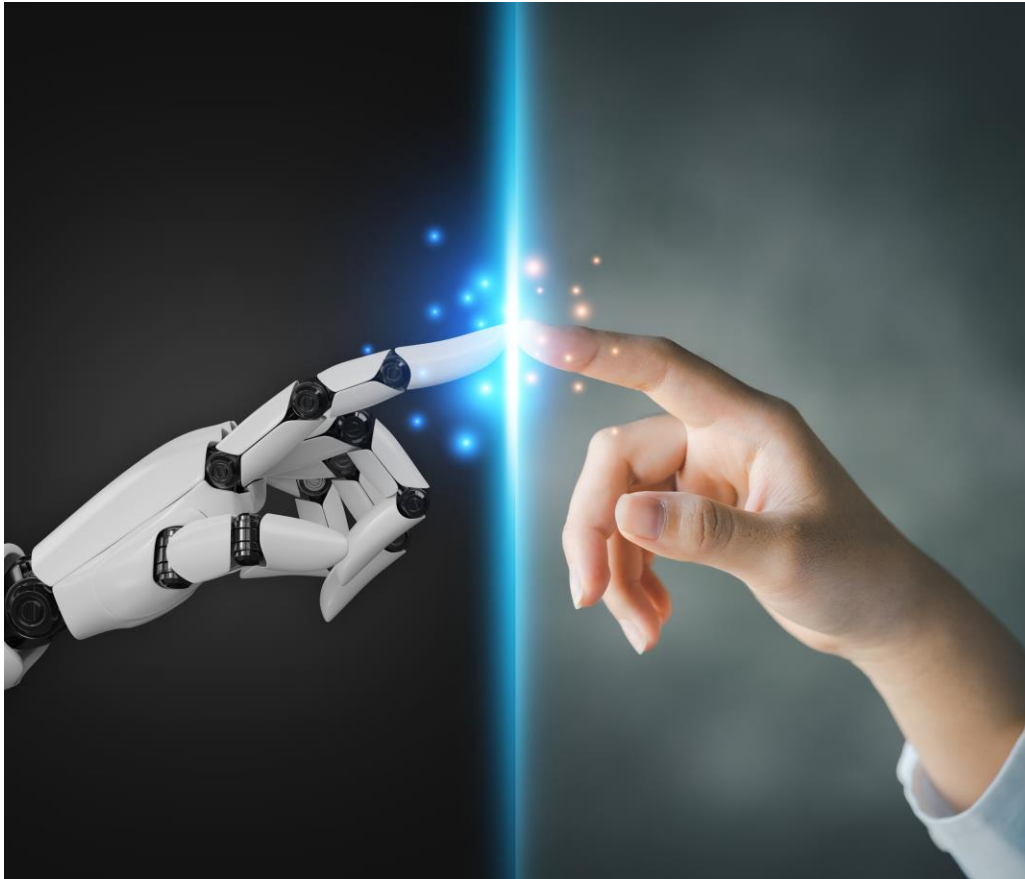
WCAG 2.1 Success Criteria:
[3.3.1 Error Identification \(Level A\)](#)
[4.1.3 Status Messages \(Level AA\)](#)

The Algorithm... In English
A role="alert", role="alertdialog", or aria-live attribute is present.

Line
187

```
184 <div id="page">
185   <header id="header" class="header" role="banner" aria-
      label="Site header">
186     <div class="highlighted container-fluid g-0">
187        <div class="container-fluid section clearfix"
      role="alert">
188       <div id="block-styling" class="block block-block-
      content block-block-content81040b6b-8108-4dbf-a12b-12333462ab5b">
189
```

Benefits of semi-automated testing



- Quickie testing of a single page
- No test setup needed
- No coding
- Complementary to automated testing

A11y testing with WebAIM



<https://wave.webaim.org/>

Browser Extensions

Stand-alone API/Testing Engine

Subscription API

AIM Report


Help



Web page address:

A white rectangular input field with a thin blue border and a blue arrow icon on the right side, intended for entering a web page address.

A11y testing with WAVE browser extension

 WAVE

powered by [WebAIM](#)

web accessibility evaluation tool

Styles: OFF ☐ ON ☒

Summary

Summary


Details

Reference


Order

Structure


Contrast

 0


Errors

 1


Contrast Errors

 6


Alerts

 11

Features

 38


Structural Elements

 55


ARIA


View details


The following apply to the entire page:


 *en*


An official website of the State of North Carolina [How you know](#)


 *aria-controls="collapseExample"*

 *aria-label="How you know"*/div>

 +/-

 *aria-label="Reset Language to English"*

 *tabindex=0*


 S

State Organizations


Directory


Jobs


COVID-19 Info


 *aria-labelledby="block-utilitymenu-menu"*


nc.gov


 *Home*


 Living +/-


 king +/-

 rning +/-


 oring +/-

 r Gover

 *aria-label="Main Menu"*

 *aria-label="Site header"*

False positives

 **WAVE**
web accessibility evaluation tool

powered by
[WebAIM](#)

Styles: OFF ☐ ON

Details

Summary


Details

Reference

Order

Structure

Contrast

☒ 1 Contrast Errors
1 X Very low contrast


☐ 6 Alerts

☐ 11 Features

☐ 38 Structural Elements


☐ 55 ARIA

- [Judicial](#)
- [Get Involved](#)
- [State Organizations A-Z](#)
- [All NC State Services](#)
- [Your Government](#)

Utility Menu

- [State Organizations](#)
- [Directory](#)
- [Jobs](#)
- [COVID-19 Info](#)

Home

 Search

Popular Topics

- [Vote in NC](#)
- [Vote by mail](#)
- [Vote from Overseas](#)
- [Apply for Food Stamps](#)
- [Find a Job in NC](#)
- [File Taxes in NC](#)

1. Home

False positives... or not?

class="visually-hidden"

label.visually-hidden 1x1

How do I ...

SEARCH

Elements Console Sources Network Performance Memory Application Security Lighthouse Recorder axe DevTools

```
<!DOCTYPE html>
<html lang="en" dir="ltr" prefix="og: https://ogp.me/ns#" class=" js" data-once="webform-dialog" preflight-installed="true">
  <head> ... </head>
  <body class="layout-no-sidebars page-node-1 path-frontpage node--type-landing-page scrolled scrollup" data-once="accordionLoad accordfind tabfind alertLoad">
    <a href="#main-content" class="visually-hidden focusable skip-link"> Skip to main content </a>
    <div class="dialog-off-canvas-main-canvas" data-off-canvas-main-canvas>
      <div id="page-wrapper">
        <div id="page">
          <header id="header" class="header" role="banner" aria-label="Site header"> ... </header>
          <div id="main-wrapper" class="layout-main-wrapper clearfix">
            <div id="main" class="container-fluid has_searchbox">
              <div class="landing-page__main_image" style="background-image: url(https://files.nc.gov/nc/images/2023-02/nc_spring_2023.jpg?VersionId=R2_GGqyWru3Q2LEy8higjsrHQwCG.D1N);"> ... </div>
              <aside class="home-searchbox">
                <form class="nc-search-block-form" action="/search/nc" method="get" id="nc-search-home" accept-charset="UTF-8" novalidate="novalidate" role="search" data-cy="test-nc-search-home">
                  <div>
                    <label for="edit-keys" class="visually-hidden">Search</label> == $0
                    <input title="Enter the terms you wish to search for." type="search" id="edit-keys" name="keys" size="15" maxlength="128" class="form-search form-control" tabindex="0" placeholder="How do I ..." aria-invalid="false" autocomplete="off">
                    <input id="search-button" aria-label="search" type="submit" value="Search" class="button btn btn-primary" tabindex="0" data-cy="test-home-search-button">
                  </div>
                </form>
              </aside>
            </div>
          </div>
        </div>
      </div>
    </div>
  </body>
</html>
```

Styles Computed Layout

Filter

element.style { }

.visually-hidden, .visually-hidden-hidden-focusable: not(:focus): not(:focus-visible) { }

position: absolute !important; width: 1px !important; height: 1px !important; padding: 0 !important; margin: -1px !important; overflow: hidden !important; clip: rect(0, 0, 0, 0) !important; white-space: nowrap !important; border: 0 !important;

.visually-hidden { position: absolute !important; overflow: hidden; clip: rect(1px, 1px, 1px, 1px); }

A11y testing with axe DevTools browser extension

nc.gov

Living Working Learning Exploring Your Government

Elements Console Sources Network Performance Memory Application Security Lighthouse Recorder axe DevTools

3 1

DevTools axe-core 4.9.1 Sign up / Sign in

Overview Guided Tests

Test Name Save Test

Test URL Re-run scan

https://www.nc.gov/

TOTAL ISSUES

1

Best Practices: ON WCAG 2.1 AA

Automatic Issues..... 1

Guided Issues..... 0

Manual Issues..... 0

Best Practice..... 1

Critical..... 0 Serious..... 0

Moderate..... 1 Minor..... 0

Total Issues: 1

All page content should be contained by landmarks 1

False positive?

<header>
<nav>
<main>
<aside>

<footer>
<section>
<article>
<form>

The screenshot displays the axe DevTools interface. The top navigation bar includes tabs for Elements, Console, Sources, Network, Performance, Memory, Application, Security, Lighthouse, Recorder, and axe DevTools. The main panel is divided into two sections: Overview and Guided Tests. The Overview section shows the test name, URL, and a summary of issues. The Guided Tests section shows a list of issues, with the first issue highlighted. The issue is titled "All page content should be contained by landmarks" and is categorized as a Best Practice issue. The issue description states: "Ensures all page content is contained by landmarks". The element location is ".landing-page__main_image". The issue is marked as a false positive. The interface also shows a "TOTAL ISSUES" summary on the left, indicating 1 issue. The bottom of the interface shows the "Found on" date and time: 6/19/2024 at 3:21 PM.

DevTools *axe-core* 4.9.1 Sign up / Sign in

Overview Guided Tests

Test Name Save Test

Test URL Re-run scan

<https://www.nc.gov/>

TOTAL ISSUES

Automatic Issues..... 1

Guided Issues..... 0

Manual Issues..... 0

Best Practice..... 1

Critical..... 0 Serious..... 0

Moderate..... 1 Minor..... 0

Best Practices: ON WCAG 2.1 AA

Total Issues: 1

All page content should be contained by landmarks 1

Highlight Share Issue

Ensures all page content is contained by landmarks

[more information](#)

Element Location: .landing-page__main_image

```
<div class="landing-page__main_image" style="background-image: url(https://files.nc.gov/nc/images/2023-02/nc_spring_2023.jpg?VersionId=R2_GGqyWru3Q2LEy8higjsrHQwCG.D1N);">
```

To solve this problem, you need to fix the following:

Some page content is not contained by landmarks

Found: Automatically Impact: moderate cat.keyboard best-practice Found on: 6/19/2024 at 3:21 PM

Benefits of manual testing



- Expert evaluation
- Issues unfindable by tools
- Real world assistive technology (<https://ablr360.com/>)
- Usability



This is us fixing an error.
So happy!



Try It

This could be you!

Use one or more of the free tools mentioned to test a page with known errors.

- <https://wave.webaim.org/>
- WAVE browser extension
- Axe DevTools browser extension

<https://digitalcommons.nc.gov/igor>

Conclusions



-
- For the best test coverage, use a variety of tools and methods.
 - Build an automated testing program for volume and frequency of testing.
 - When possible, enlist the help of people who use assistive technologies day-to-day.



Thank You

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digitalcommons.nc.gov



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