

Tech Check: Digital Accessibility Tools Every Company Should Be Using

Kevin McDaniel

[Accessibility.com](https://www.accessibility.com)



Assessing Technology for Accessibility Toolkit

Color Contrast Checkers

Website Accessibility Scanning Tools

Screen readers

Screen magnification software

Speech input

WCAG-EM

Color Contrast Examples

Great (21:1)

Good (11:1)

Pass (4.5:1)

Bad (1.8:1)

Bad (1.2:1)



Foreground colour (black)
HEX #000000

Background colour (white)
HEX #FFFFFF

Sample preview
example text showing contrast

WCAG 2.1 results
Contrast ratio 21:1

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

Color Contrast

WebAIM Contrast Checker
([WebAIM: Contrast Checker](#))

Microsoft Paint

Chrome Color Contrast
Analyzer plug-in

Contrast Checker

[Home](#) > [Resources](#) > Contrast Checker

Foreground Color
#FFFFFF
Lightness

↔

Background Color
#000000
Lightness

Contrast Ratio
21:1
[permalink](#)

Normal Text
WCAG AA: **Pass**
WCAG AAA: **Pass**

The five boxing wizards jump quickly.

Large Text
WCAG AA: **Pass**
WCAG AAA: **Pass**

The five boxing wizards jump quickly.

Graphical Objects and User Interface Components
WCAG AA: **Pass**

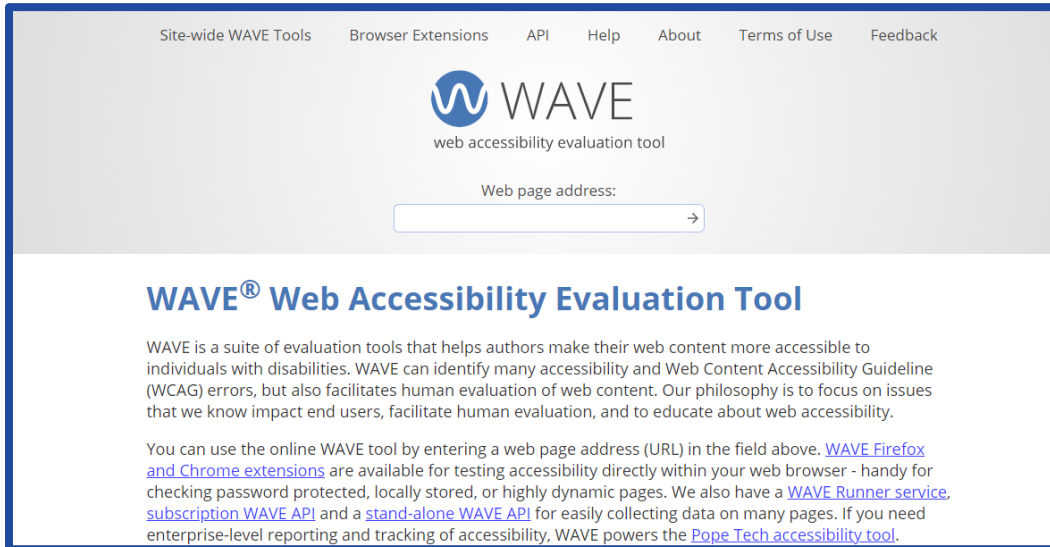
Text Input

Related Resources

- [Contrast and Color Accessibility](#)
- [Quick Reference: Testing Web Content for Accessibility](#)
- [Web Accessibility for Designers](#)
- [Link Contrast Checker](#)

Scanning Tools

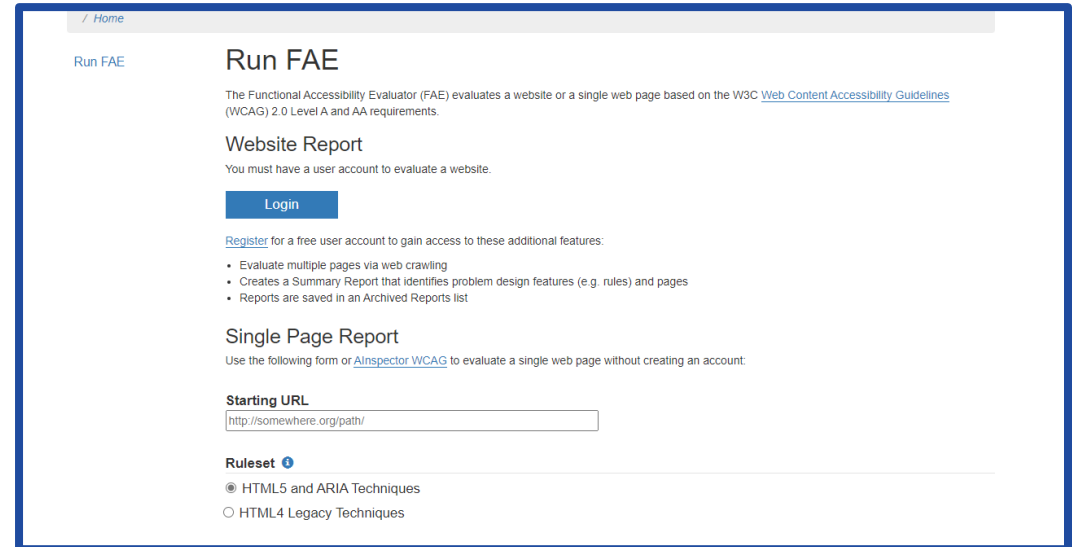
WAVE – WebAIM toolset



The screenshot shows the homepage of the WAVE Web Accessibility Evaluation Tool. At the top, there is a navigation bar with links: Site-wide WAVE Tools, Browser Extensions, API, Help, About, Terms of Use, and Feedback. Below the navigation bar is the WAVE logo and the text "web accessibility evaluation tool". A search bar labeled "Web page address:" with a right arrow is present. Below the search bar, the heading "WAVE® Web Accessibility Evaluation Tool" is displayed. The main text describes WAVE as a suite of evaluation tools that helps authors make their web content more accessible to individuals with disabilities. It mentions that WAVE can identify many accessibility and Web Content Accessibility Guideline (WCAG) errors, but also facilitates human evaluation of web content. The philosophy is to focus on issues that we know impact end users, facilitate human evaluation, and to educate about web accessibility. Below this, it states that you can use the online WAVE tool by entering a web page address (URL) in the field above. It lists available tools: WAVE Firefox and Chrome extensions for testing accessibility directly within your web browser, WAVE Runner service for checking password protected, locally stored, or highly dynamic pages, subscription WAVE API for easily collecting data on many pages, and a stand-alone WAVE API for enterprise-level reporting and tracking of accessibility. It also mentions that WAVE powers the Pope Tech accessibility tool.

[WAVE Web Accessibility Evaluation Tool
\(webaim.org\)](https://webaim.org)

Functional Accessibility Evaluator



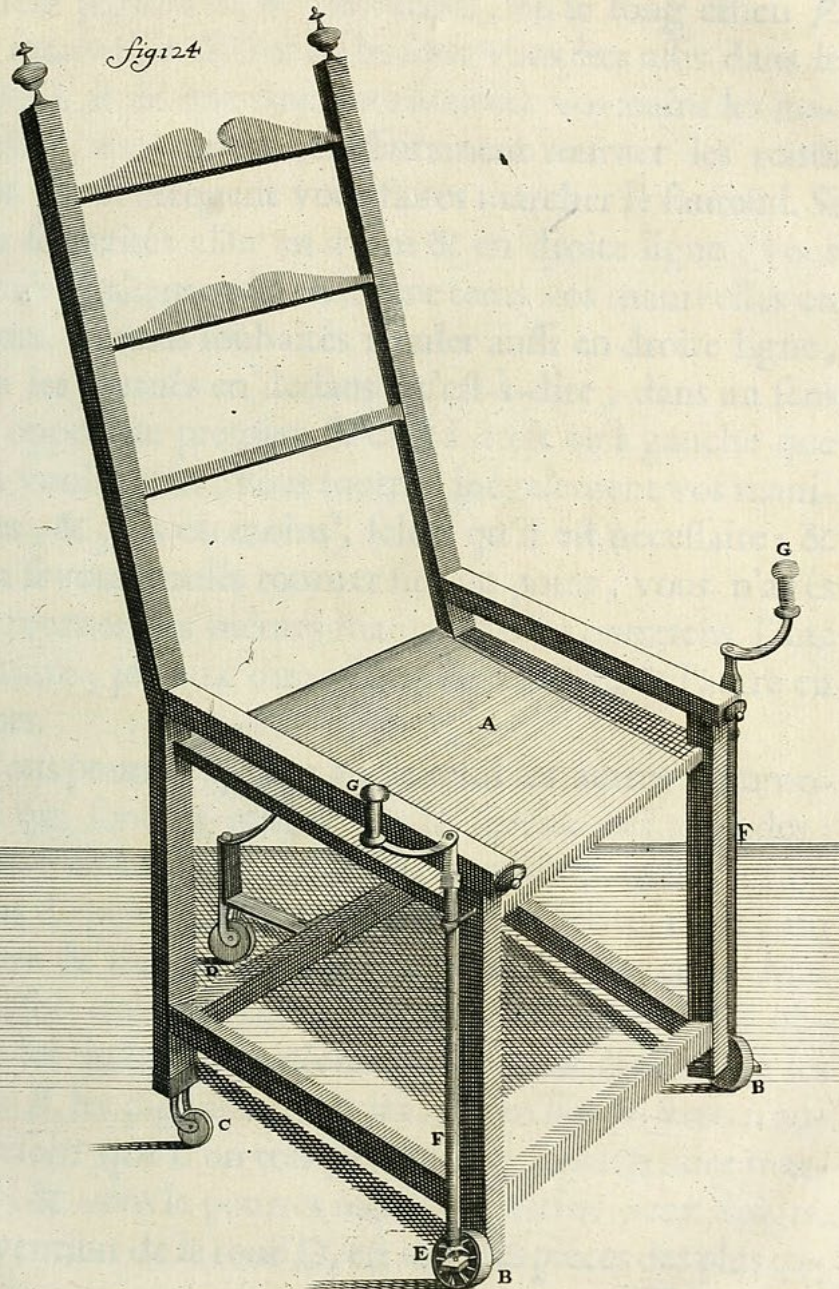
The screenshot shows the interface of the Functional Accessibility Evaluator (FAE). At the top, there is a navigation bar with a link: / Home. Below the navigation bar, the heading "Run FAE" is displayed. The main text describes the FAE as a tool that evaluates a website or a single web page based on the W3C Web Content Accessibility Guidelines (WCAG) 2.0 Level A and AA requirements. Below this, the heading "Website Report" is displayed, followed by the text "You must have a user account to evaluate a website." and a "Login" button. Below the login button, there is a link to "Register" for a free user account to gain access to these additional features: Evaluate multiple pages via web crawling, Create a Summary Report that identifies problem design features (e.g. rules) and pages, and Reports are saved in an Archived Reports list. Below this, the heading "Single Page Report" is displayed, followed by the text "Use the following form or [AInspector WCAG](#) to evaluate a single web page without creating an account." Below this, there is a form labeled "Starting URL" with a text input field containing "http://somewhere.org/path/". Below the form, there is a section labeled "Ruleset" with two radio buttons: "HTML5 and ARIA Techniques" (selected) and "HTML4 Legacy Techniques".

[Run FAE : Functional Accessibility
Evaluator 2.1 \(illinois.edu\)](https://www.accessibility.com/RunFAE/)

What is Assistive Technology?

The United States Access Board defines assistive technology as:

Any item, piece of equipment, or product system, whether acquired commercially, modified, or customized, that is used to increase, maintain, or improve functional capabilities of individuals with disabilities.



Adaptive and Assistive Technologies in History

First verified use of wheelchairs dates to the 5th – 6th century BCE – China

Hearing aids date back to the 17th century and were adopted in mainstream Europe by the close of the 18th century when hearing aids move from a conceptual stage to implementation

In 1824 Louis Braille learned about a writing system “night writing” developed that used heavy and raised black ink

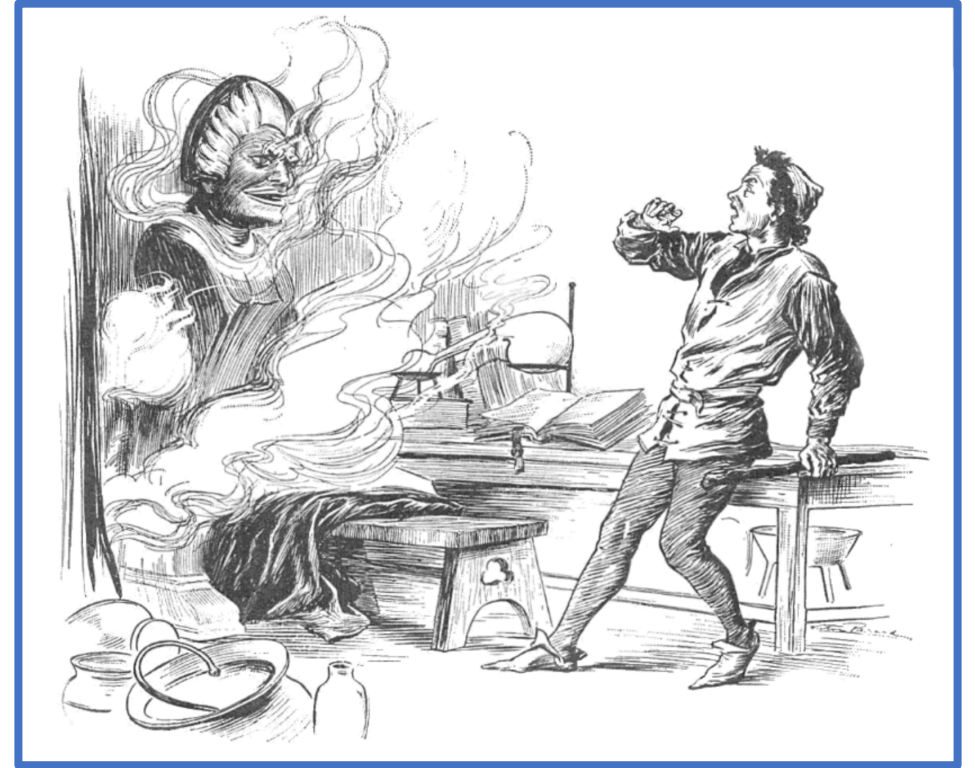
In 1971, Julia Child’s cooking show became the first television program to broadcast with captioning technology

Modern Advances

Audio Books/Talking
Books

Text-messaging

Voice Assistants – SIRI,
Alexa, Hey Google



Screenreaders

JAWS – Freedom Scientific

Microsoft Narrator

NVDA

TalkBack – Google

VoiceOver – Apple



Screen magnification software

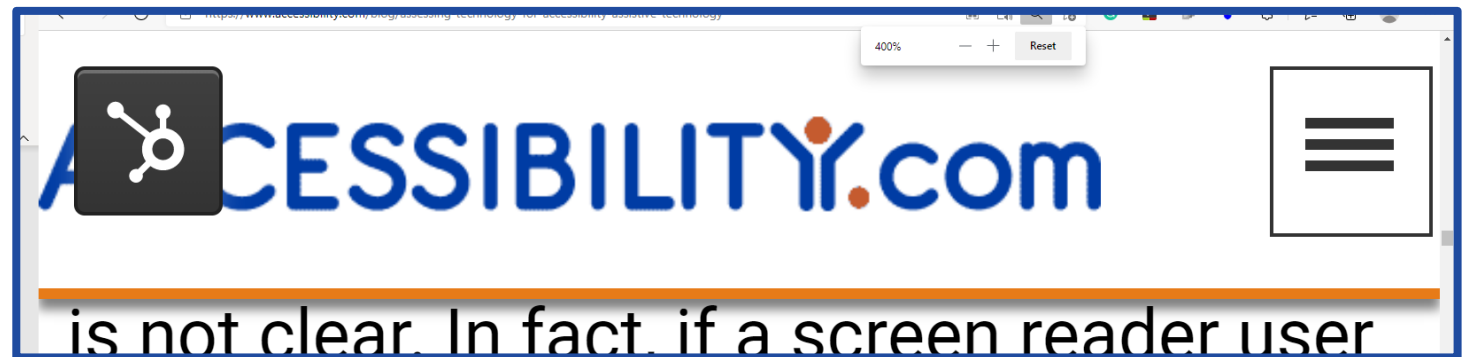
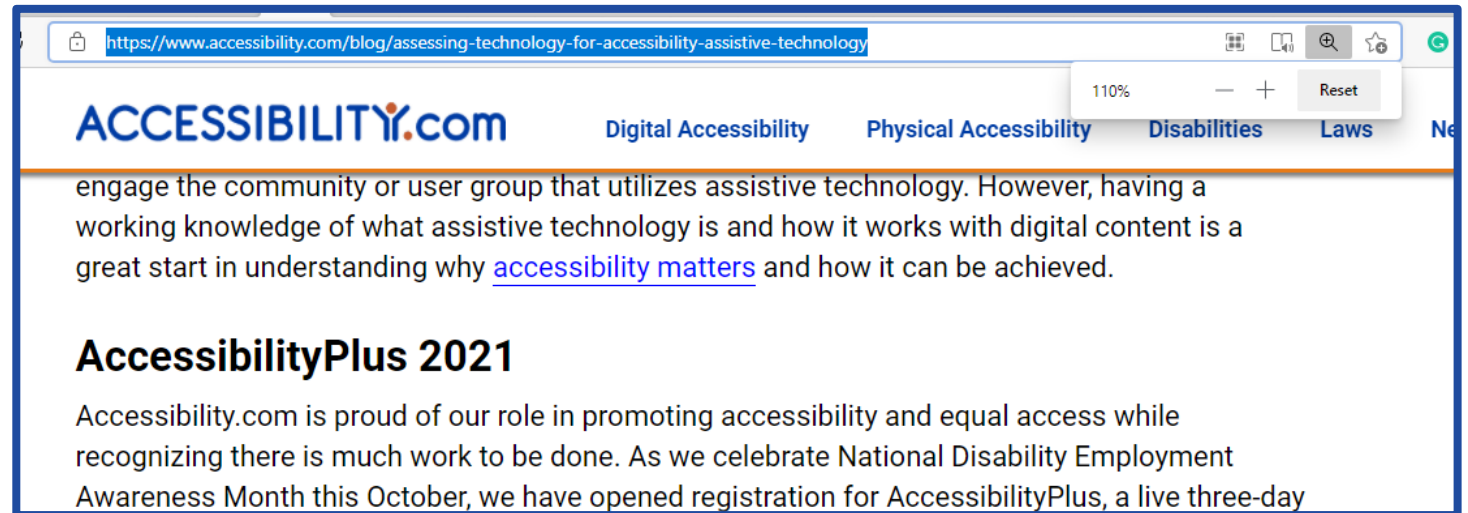
ZoomText

MAGic

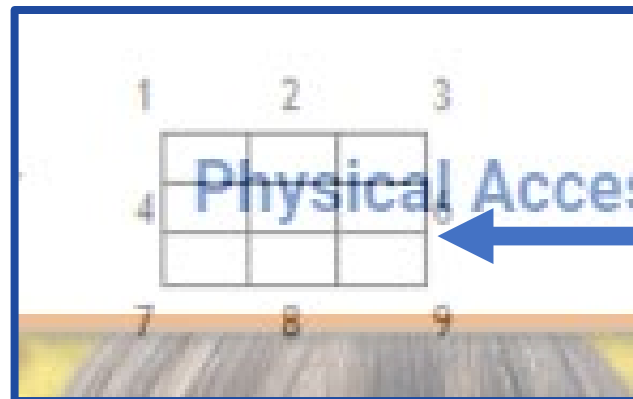
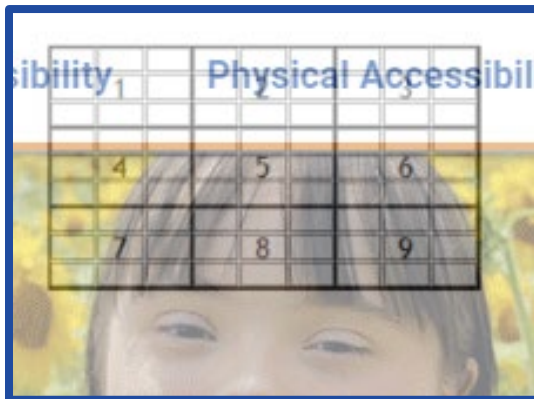
Windows Magnifier

Pinch to Zoom

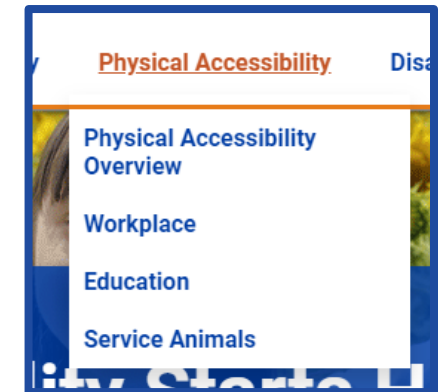
CTRL+/CTRL-



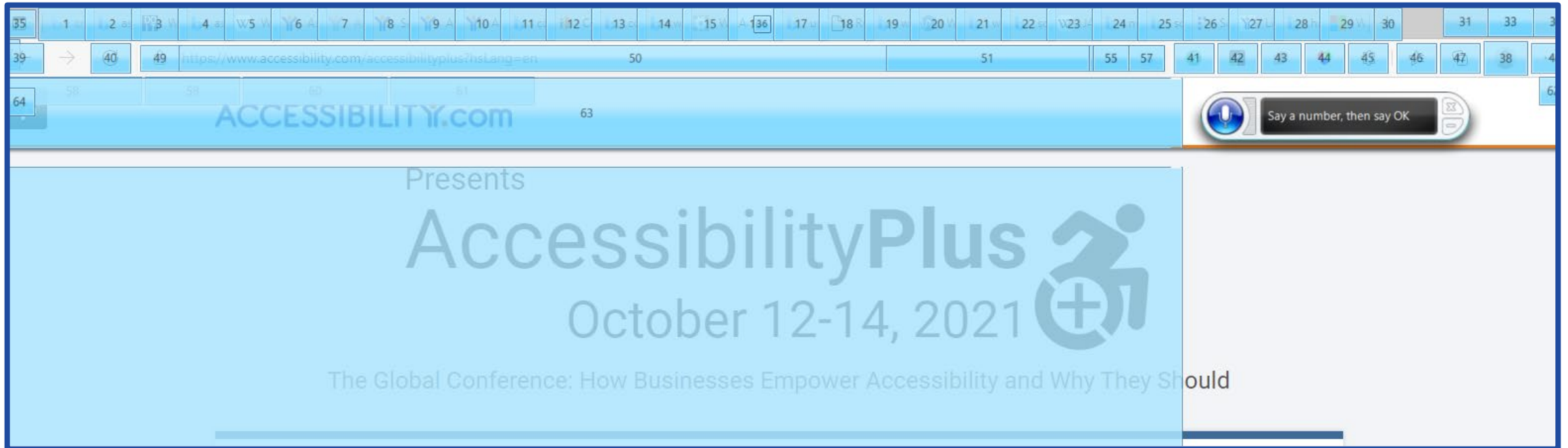
Speech Input - SG



Say "Click 5" to
activate mouse
left click on
area



Speech Input



WCAG-EM: Website Accessibility Conformance Evaluation Methodology

Use of WCAG-EM

(<https://www.w3.org/WAI/eval/report-tool>):

- Web consultants who want to analyze accessibility
- Web accessibility evaluation service providers
- Website developers
- Website owners and procurement officers
- Website compliance and quality assurance manager
- Training staff and educators
- Web masters and content authors

Overview

Welcome to the [updated](#) WCAG-EM Report Tool. You can open your existing reports with this tool. The [previous version](#) is available, and is no longer supported.

[Dismiss](#)

WCAG-EM Report Tool turns your accessibility evaluation findings into a report. It is based on the Web Content Accessibility Guidelines Evaluation Methodology [WCAG-EM](#).

[Start New Report](#)[Open Report](#)[+Expand All Sections](#)[—Collapse All Sections](#)

+ Tips for using this tool

+ About this tool

+ How this tool works

Define the Evaluation Scope

1. Website Name
2. Scope of the Website
3. WCAG Version
4. Conformance Target
5. Accessibility Support Baseline
6. Additional Evaluation Requirements


WCAG-EM Report Tool


Overview 1. Define Scope 2. Explore Website 3. Select Sample 4. Audit Sample 5. Report Findings View Report



Step 1: Define the Evaluation Scope



Define the overall parameters and scope of the evaluation. Ideally, this is done with the person who commissioned the evaluation (who may or may not be the website owner), to ensure common expectations about the scope of the evaluation.


Step 1: Define the Evaluation Scope


Website name Show info 


Scope of the website Show info 

WCAG Version Show info 
WCAG 2.1 

Conformance target Show info 
Level AA 

Accessibility support baseline Show info 

Additional evaluation requirements Show info 

Your report Hide 

Reported on 0 of 50 WCAG 2.1 AA Success Criteria.

Perceivable 0 of 20

Operable 0 of 17

Understandable 0 of 10

Robust 0 of 3

View Report

Explore the Target Website

1. Web technologies relied upon
2. Add web technologies
3. Optional Exploration Notes
 1. Essential functionality of the website
 2. Variety of web page types

WCAG-EM Report Tool

Overview 1. Define Scope 2. Explore Website 3. Select Sample 4. Audit Sample 5. Report Findings View Report

Step 2: Explore the Target Website

Explore the website to understand its purpose, functionality, and use. This step helps you determine which web pages to use for the evaluation in the next steps. Identify the web technologies used to provide the website and, if you want, take notes on other aspects of the website. Usually it is best to get input from the website owners and developers for this step.

Step 2: Explore the Target Website

Web Technologies Relied Upon

Show Info

- ☐ HTML
- ☐ CSS
- ☐ WAI-ARIA
- ☐ JavaScript
- ☐ SVG
- ☐ PDF

Add web technology

Web Technology: Specification Address (URL):

Add

Optional Exploration Notes

This section lets you record information during your website exploration. These notes are provided in the next step, to help you select a sample of web pages for evaluation. **These notes are not included in the final report.** They are saved when you save the file, and available when you later reload the file.

Essential functionality of the website Show Info

Variety of web page types Show Info

Your report

Hide

Reported on 0 of 50 WCAG 2.1 AA Success Criteria.

Perceivable	0 of 20
Operable	0 of 17
Understandable	0 of 10
Robust	0 of 3

View Report

Select a Representative Sample

1. Variety of web page types
2. Structured Sample Web Pages
3. Randomly Selected Sample

WCAG-EM Report Tool

Overview1. Define Scope2. Explore Website3. Select Sample4. Audit Sample5. Report FindingsView Report

Step 3: Select a Representative Sample

Select web pages for evaluation. The notes that you took during exploration in the previous step are provided here, to help you select the web pages. Ensure that the web pages selected are representative of the target website.

Step 3: Select a Representative Sample

Structured Sample

Essential functionality (optional notes from previous step):

Variety of web page types (optional notes from previous step):

Structured Sample Web Pages

Show info

No pages defined for this list

Add web page

Randomly Selected Sample

Show info

Based on your structured sample of 0 web pages, choose at least 0 randomly selected web pages (to meet the 10% requirement in WCAG-EM).

No pages defined for this list

Add web page

Your report

Hide

Reported on 0 of 50 WCAG 2.1 AA Success Criteria.

Perceivable0 of 20

Operable0 of 17

Understandable0 of 10

Robust0 of 3

View Report

October 2021

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Audit the Selected Sample

WCAG-EM Report Tool

Overview1. Define Scope2. Explore Website3. Select Sample4. Audit Sample5. Report FindingsView Report

Step 4: Audit the Selected Sample

Record the outcome from evaluating the web pages selected in the previous step. Compare the results between the structured page and randomly selected pages, and if needed, adjust the selected sample in the previous step.

Step 4: Audit the Selected Sample

WCAG version

- ☒ WCAG 2.1
- ☐ Added in WCAG 2.1
- ☐ WCAG 2.0

Conformance level

- ☒ Level A
- ☒ Level AA

Add results for pages

No sample available.

1 Perceivable

1.1 Text Alternatives

1.1.1: Non-text Content Level A

Understanding 1.1.1 How to meet 1.1.1

All non-text content that is presented to the user has a text alternative that serves the equivalent purpose, except for the situations listed below. [Show full description](#)

Entire sample

Outcome:

Not checked

Observations:

[View in report](#)

BETA

Add data from other (automated) tests

Import data (EARL as JSON-LD)

1.4.4: Resize text Level AA

Understanding 1.4.4

How to meet 1.4.4

Except for captions and images of text, text can be resized without assistive technology up to 200 percent without loss of content or functionality.

Entire sample

Outcome:

Passed

Observations:

[View in report](#)

Text can be resized to 400% without loss of content or functionality.

1.4.5: Images of Text Level AA

Understanding 1.4.5

How to meet 1.4.5

If the technologies being used can achieve the visual presentation, text is used to convey information rather than images of text except for the following:

Show full description

- Customizable:** The image of text can be visually customized to the user's requirements;
- Essential:** A particular presentation of text is essential to the information being conveyed.

Entire sample

Outcome:

Not present

Observations:

[View in report](#)

No images of text observed.

Report the Evaluation Findings

WCAG-EM Report Tool

Overview1. Define Scope2. Explore Website3. Select Sample4. Audit Sample5. Report Findings

Step 5: Report the Evaluation Findings

Provide additional information about the evaluation that you want included in the report. The evaluation findings that you entered in the previous step are included below under 'Detailed audit results' for review and to help you write the executive summary.

Step 5: Report the Evaluation Findings

Report title

Show info

+

Accessibility.com AccessibilityPlus Report

Evaluation commissioner

Show info

+

Evaluator Guy

Evaluator

Show info

+

Kevin McDaniel

Evaluation date

Show info

+

Tue Sep 28 2021

Executive summary

Show info

+

No accessibility issues identified.

WCAG-EM Report Tool

Overview1. Define Scope2. Explore Website3. Select Sample4. Audit Sample5. Report FindingsView Report

Accessibility.com AccessibilityPlus Report

Download Report (HTML)

Download Report (JSON)

About the Evaluation

Report Creator :

Kevin McDaniel

Evaluation Commissioner :

Evaluator Guy

Evaluation date :

Tue Sep 28 2021

Edit

Executive Summary

No accessibility issues identified.

Edit

Scope of the Evaluation

Website name :

Accessiblilty.com

Scope of the website :

Our mission is to create objective and trustworthy information and resources to become a catalyst for equal access to the physical and digital worlds.

WCAG Version :

2.1

Conformance level :

AA

Questions?

