

Web Accessibility

Testing and Adding Accessibility



Purpose of Instruction

Inform about free accessibility tools and simple techniques to help identify common web accessibility issues.



Web Accessibility

TESTING FOR ACCESSIBILITY



Mouse Navigation Test

Users with motor disabilities and users with visual impairment struggle with navigating websites using a mouse. Meaning, websites must be accessible by only using a keyboard.

Test a webpage:

1. Use the **Tab** key to navigate a webpage. Can all information be accessed?
2. When navigating the webpage using tab, is order logical?
3. Use the **Enter** key to activate links and other content. Does the link take you to the intended destination?

Can all content within a page be accessed by using the keyboard? If not, then there is an access issue.



Enlarge Text

Individuals with visual impairment will enlarge a webpage to view its content. Enlarge text on a page to ensure text is not hidden or distorted when enlarged.

1. Open a web browser.
2. On the keyboard press and hold **CTRL** then press **+** or **-** to increase or decrease the content size of the page.

Browsers also allow only text size to change.

- Safari: **View > Zoom Text Only**
- Firefox: **View > Zoom > Zoom Text Only**
- Internet Explorer: **View > Text size**

100% - Normal

About Us

The mission of the ATI is to help provide equivalent access to electronic and information technology resources for members of the Mason community, as well as visitors to Mason campuses. This is accomplished by working collaboratively with the ITU, academic and administrative departments/units, faculty, as well as library personnel to develop, coordinate, and implement a university-wide technology accessibility plan that ensures conformity with the technical standards outlined in WCAG 2.0 and Section 508 of the Rehabilitation Act. This includes training and technical assistance regarding the appropriate use of assistive technology, web compliance, document/media accessibility, procurement, and software applications testing. Additionally, we coordinate with the ODS and the ADA Coordinator to address the technology accommodation needs of students, staff, and faculty with disabilities.



200% - Enlarged

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Web Accessibility Evaluation Tool (WAVE)

WAVE is a webpage evaluation tool to check for accessibility issues contained on a webpage.

1. Open a web browser and go the **wave.webaim.org**.
2. Enter a webpage address in the textbox.
3. Press the **Enter** key.



WAVE Accessibility Summary

- Red icons show accessibility issues.
- Yellow icons alert to a possible issue.
- Green icons show webpage features.
- Blue icons refer to the webpage structure (headings, lists, etc.).
- Pink icons identify HTML5 and Aria usage.
- Black icons show color contrast errors.

The screenshot displays the WAVE web accessibility evaluation tool interface. The tool is evaluating the URL `ati.gmu.edu`. The summary panel on the left indicates the following detected issues:

- 0 Errors
- 3 Alerts
- 9 Features
- 34 Structural Elements
- 12 HTML5 and ARIA
- 1 Contrast Errors

Panel Options include:

- DETAILS: A listing of all the WAVE icons in your page.
- DOCUMENTATION: Explanation of the WAVE icons and how you can make your page more accessible.
- OUTLINE: The heading structure of the web page.

The main content area shows the George Mason University website. The header includes the university logo and navigation links: About Us, Accessible Text, and Accessible Media. The main content area features a large image of a person using a computer. Below the image, there is a list of ARIA attributes, including `aria-hidden="true"`, `aria-pressed="false"`, and `role="menuitem"`. The footer text states: "The mission of the ATI is to help provide equivalent access resources for members of the Mason community."



Web Accessibility

ADDING ACCESSIBILITY

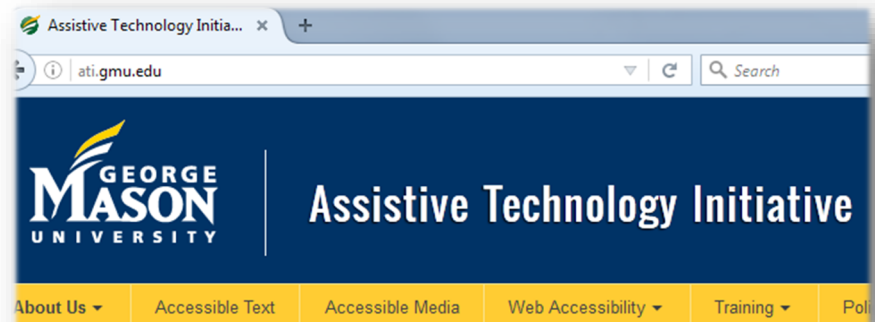


Page Titles

Good page titles are particularly important for orientation when browsing webpages.

Page titles can be:

- Shown in the window title bar
- Shown in browsers' tabs when multiple web pages open
- Shown in search engine results
- Used for browser bookmarks/favorites
- Read by screen readers
- In the web page markup is the <title> within the <head>



Links

Use simple, meaningful descriptions when links are used within a paragraph or out of context to identify what website the link is associated.

- Assistive technology Initiative
- Office of Disabilities Services
- George Mason University

Avoid vague links descriptions.

- Click here, here, read more, more info, etc.



Headings

Webpages have sections of information separated by visual headings. In order for a screen reader to quickly access Content. Heading text is a larger font size and bold. Headings need to be "marked up" in the webpage "code" (e.g., HTML).

A "Heading" for a webpage can be:

- The title of the page
- Titles of subsections of the page

Heading levels should have a meaningful hierarchy and logical order, such as:

Heading Level 1 <h1>

Heading Level 2 <h2>

Heading Level 3 <h3>

Heading Level 2 <h2>

Heading Level 3 <h3>

Heading Level 4 <h4>

Heading Level 2 <h2>



Alternative (Alt) Text

Alt text should be functional and provide an equivalent user experience.

Alt text conveys the purpose of an image, including pictures, illustrations, charts, etc.

For example, individuals with visual impairments use screen readers to hear the alt text read aloud.



Example HTML code of the alt text for the George Mason University logo:

```

```



Tables

Tables can be frustrating to navigate with a screen reader or keyboard for individuals with visual impairments when tables are not formatted correctly.

Ensure tables have headings to aid in communicating data accurately.

Class Schedule

Class Name	Course #	Location
Biology	BIO 100	Building A
Chemistry	CHEM 100	Building B

Example Code:

```
<table>
<caption>Class Schedule</caption>
<tr>
<th scope="col">Class Name</th>
<th scope="col">Course #</th>
<th scope="col">Location</th>
</tr>
<tr>
<th scope="row">Biology</th>
<td>Bio 100</td>
<td>Building A</td>
</tr>
<tr>.....
```



Color Contrast

Adding color to websites looks appealing, however, using colors without enough contrast causes issues for individuals with colorblindness or other visual impairments.

Webpages should have a minimum contrast ratio of at least 4.5:1 for normal-size text.

1. Open a web browser and go to <http://webaim.org/resources/contrastchecker/>
2. Enter the foreground and background colors.
3. The checker will provide a pass or fail for normal and enlarged text.

Color Contrast Checker

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

Foreground color: #0000ff  [lighten](#) | [darken](#)

Background color: #ffffff  [lighten](#) | [darken](#)

Contrast Ratio: 8.59:1

Normal Text

WCAG AA: **Pass**

WCAG AAA: **Pass**

Sample: I am normal text

Large Text

WCAG AA: **Pass**

WCAG AAA: **Pass**

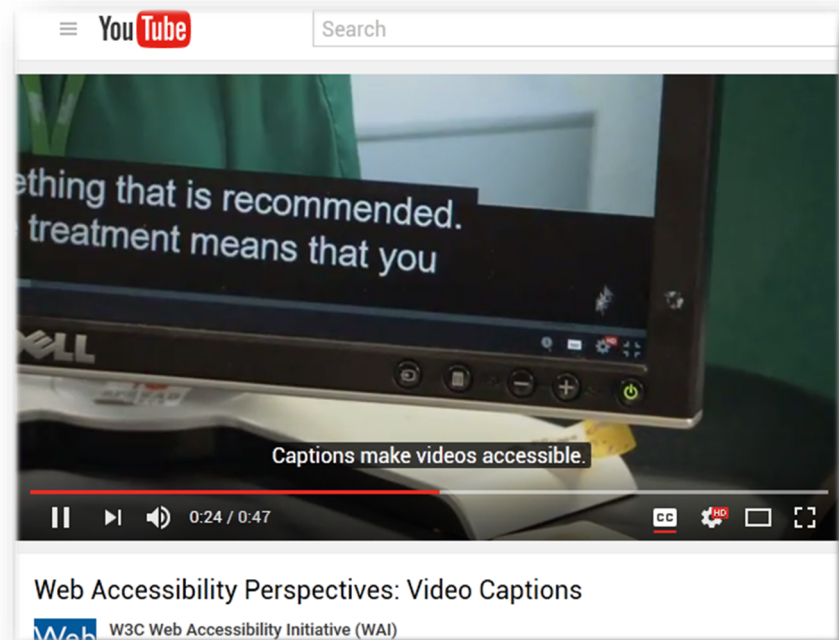
Sample: I am large text



Captions

Videos can present large quantities of content in a short period of time. However, for individuals with hearing impairment, videos without captions are inaccessible.

If videos will be hosted on a website, ensure captions are available.



Accessibility Tools & Resources

- WAVE by Webaim - <http://wave.webaim.org/>
- WAVE Chrome Extension - <http://wave.webaim.org/extension/>
- Color Contrast Analyzer - <https://chrome.google.com/webstore/detail/color-contrast-analyzer/dagdlcijhfbmgkjokkjicnnfimlebccl?hl=en>
- Open AJAX Alliance - <https://addons.mozilla.org/en-us/firefox/addon/openajax-accessibility-exte/>
- Web Accessibility Toolbar by Paciello Group - <https://www.paciellogroup.com/resources/wat/>



Accessibility@Mason

Guide to Creating Accessible Electronic Materials



GEORGE MASON UNIVERSITY | Assistive Technology Initiative

Contact ATI at 703-993-4329 or ati@gmu.edu

