

ACCESSIBILITY

Tools and Information You Can Use

What We'll be Discussing

- Basic Accessibility Concepts in Web Pages
- Accessibility in Documentation (Word, Adobe Acrobat)
- Tools Available You Can Use

Web Accessibility Definition

“Development of information systems flexible enough to accommodate the needs of the broadest range of users... regardless of age or disability.”

Cynthia Waddell

Why worry about accessibility?

“Accessibility and achievement go hand in hand. We need to eliminate any barriers that hinder a student's opportunity to learn or opportunity to demonstrate that learning.”

Pearson Education

True or False?

Accessible web design only benefits a small percentage of the population.

8.5% of the population has a disability that affects computer use
...does not include those with cognitive/learning disabilities, color blindness, etc.

True, False, or I don't know?

My web content is currently compliant.

My web content is currently accessible.

- Your site can be compliant, yet inaccessible

There are instances in which a site can be fully compliant yet yield inaccessible information due to a screen reader's inability to properly render the compliant coding.

i.e. - Complex Tables

Accessibility > Compliance

Parts of your Web pages you should be checking for Accessibility

- “Skip Links”
- Page title
- Image text alternatives (‘alt text’) (pictures, illustrations, charts, etc.)

Text Items:

- Headings
- Contrast ratio (‘color contrast’)
- Resize Text

Interactive Items:

- Keyboard access and visual focus
- Forms, labels, and errors (including Search fields)

General Items:

- Multimedia (video, audio) alternatives
- Basic Structure Check

“Skip Links”

Overview

- The main content is not usually the first thing on a web page. Keyboard and screen reader users generally must navigate a long list of navigation links, sub-lists of links, corporate icons, site searches, and other elements before ever arriving at the main content. This is particularly difficult for users with some forms of motor disabilities.
- Without some sort of system for bypassing the long list of links, some users are at a huge disadvantage. Consider users with no arm movement, who use computers by tapping their heads on a switch or that use a stick in their mouth to press keyboard keys. Requiring users to perform any action perhaps 100s of times before reaching the main content is simply unacceptable.
- Of course, sighted people who use their mouse do not have any trouble with pages such as this. They can almost immediately scan over the page and identify where the main content is. In effect, sighted users have a built-in "skip navigation" mechanism: their eyes. They can also bypass the many links before the main content and click directly on the link they want with the mouse. The "skip navigation" idea was invented to give screen reader and keyboard users the same capability of going directly to the main content that sighted mouse users take for granted.

“Skip Link” Example Code

```
<body>
<a href="#maincontent"
class="hidden">Skip to main
content</a>

<main id="maincontent">
<h1>Heading</h1>
<p>This is the first paragraph</p>
```

```
.hidden {
    position:absolute;
    left:-10000px;
    top:auto;
    width:1px;
    height:1px;
    overflow:hidden;
}
```

Page Title

Page titles are:

- shown in the window title bar in some browsers
- shown in browsers' tabs when there are multiple web pages open
- shown in search engine results
- used for browser bookmarks/favorites
- read by screen readers

Good page titles are particularly important for orientation (to help people know where they are and move between pages open in their browser). The first thing screen readers say when the user goes to a different web page is the page title.

What to Look For

- Check that there is a title that adequately and **briefly** describes the content of the page.
- Check that the title is different from other pages on the website, and adequately distinguishes the page from other web pages.



Image text alternatives (‘alt text’)

- Text alternatives (‘alt text’) convey the purpose of an image, including pictures, illustrations, charts, etc. Text alternatives are used by people who cannot see the image. (For example, people who are blind and use screen readers can hear the alt text read out; and people who have turned off images to speed download or save bandwidth can see the alt text.)

``

Every image should include alt in the markup.

- If an image conveys information useful for interacting with or understanding the web page content, then it needs alternative text.
- If an image is just decorative and people don't need to know about the image, then it should have null alt (alt="").

What about background images?

- If an image is coded as a background inline, within a style block, or inside an external stylesheet and defines the styling for the page or a layer, there is no need for an 'alt' tag since a screen reader cannot 'see' it.

Background-attachment: url(images/background.jpg);

Let's Talk About Carousels

Carousel Issues

- Automated carousels violate WCAG 2.0 Success

Criteria 2.2.2 (Level A) - Pause, Stop, Hide

- Distracting and confusing
- Difficult interaction model
- No relationship between controls and content
- 'Freak-out mode' when carousel changes
- Allow poor content decisions

Carousel Accessibility Solutions?

- Avoid auto-playing (optimal) or include a visible Pause button (preferably) before the carousel
- Pause carousel on mouse hover and on keyboard focus
- Ensure focused items do not disappear, or manage focus when they do
- Provide context for controls
- Descriptive text
- Ensure accessible content

What to Look for

- Make sure every image has an 'alt' attribute with appropriate alternative text.

Headings

- Web pages often have sections of information separated by visual headings, for example, heading text is bigger and bold. To make these work for everyone, the headings need to be marked up. That way people can navigate to the headings; including people who cannot use a mouse and use only the keyboard, and people who use a screen reader.
- Heading levels should have a meaningful hierarchy.

Headings

- Usually one `<h1>` per page. Should be similar to page title.
- Do not skip heading levels (e.g., `<h2>` to `<h4>`).
- Can skip backward (e.g., `<h4>` to `<h2>`).
- Should never be empty.

Headings Examples

```
<!DOCTYPE html>
```

```
<html>
```

```
<body>
```

```
<h1>Universal Studios Presents</h1> ← Most Important
```

```
<h2>Jurassic Park</h2> ← Next Most Important
```

```
<h3>About</h3> ← Least Important
```

```
<p>On the Island of Isla Nublar, a new park has been built: Jurassic Park is a theme park of cloned dinosaurs!!</p>
```

```
</body>
```

```
</html>
```


What to Look for

- The page has a heading. In almost all pages there should be at least one heading.
- All text that looks like a heading is marked up as a heading.
- All text that is marked up as a heading is really a conceptual section heading.
- The heading hierarchy is meaningful. Ideally the page starts with an ‘h1’ which is usually similar to the page title and does not skip levels; however, **these are not absolute requirements.**

Color Contrast

- You've won the lottery! Press the GREEN button to accept your prize and the RED button to decline.



Another Example

The green mushrooms listed here are okay to eat. The red mushrooms will kill you.

- Amanita
- Chanterelle
- Porcini
- Shitake
- Tylopilus

What to Look for

- High contrast (for example, dark text on light background or bright text on dark background) is required by some people with visual impairments, including many older people who lose contrast sensitivity from ageing.
- While some people need high contrast, for others - including some people with reading disabilities such as dyslexia - bright colors (high luminance) are not readable. They need low luminance.
- Web browsers should allow people to change the color of text and background, and web pages need to work when people change colors.
- Web pages should have a minimum contrast by default: a contrast ratio of at least 4.5:1 for normal-size text.

Resize Text

Some people need to enlarge web content in order to read it. Some need to change other aspects of text display: font, space between lines, and more.

Most browsers allow users to change text size through:

- text size settings (usually through Options or Preferences)
- text-only zoom
- page zoom (which also zooms images, buttons, etc.)

When pages are not designed properly, they can be unusable when the text size is changed, especially when it is changed through text-only zoom or text settings. Sometimes columns and sections overlap, the space between lines disappears, lines of text become too long, or text disappears.

When text size is increased, sometimes part of the sentences are not visible and users have to scroll horizontally to read a sentence. Most people cannot effectively read text that requires horizontal scrolling, and some disabilities make this impossible.

What to Look for

- All text gets larger. (a common problem is that text is not provided as actual text format but instead the text is in an image. Text in images does not get larger when users increase text size.)
- Text doesn't disappear or get cut off.
- Text, images, and other content do not overlap.
- All buttons, form fields, and other controls are visible and usable.
- Horizontal scrolling is not required to read sentences or "blocks of text". It is best practice that when text size is increased, all the text in a sentence is visible. It is acceptable to have to scroll horizontally to get to different sections of a page.

Keyboard Access and Visual Focus

- Many people cannot use a mouse and rely on the keyboard to interact with the Web. People who are blind and some sighted people with mobility impairments rely on the keyboard or on assistive technologies and strategies that rely on keyboard commands, such as voice input. Websites need to enable people to access all content and functionality - links, forms, media controls, etc. - through a keyboard.
- Keyboard focus should be visible and should follow a logical order through the page elements. Visible keyboard focus could be a border or highlight, as shown below, that moves as you tab through the web page.

Do not remove the keyboard focus
indicators from links

Avoid

a {outline:0;}

or

a {outline:none;}

Enhance the default focus indicators

```
a:focus {  
    outline:1px;  
    background-color:#ff0;  
    text-decoration:underline;  
}
```

Use: a:hover, a:focus

Avoid Tabindex

... unless you're sure you know what you're doing.
If the default tab order is not logical, fix your source code order.

- `tabindex="1+"` defines an explicit tab order.
- `tabindex="0"` allows things besides links and form elements to receive keyboard focus.
- `tabindex="-1"` allows things besides links and form elements to receive programmatic focus (by scripting, links, etc.).
- Click events do not always trigger via keyboard for things other than links or form controls...

... even with `tabindex="0"`

What to Look for

- Check that you can tab to all the elements, including links, form fields, buttons, and media player controls.
- Check that you can tab **away** from all elements that you can tab into. (keyboard focus gets caught in media controls and you cannot get out)
- Check that the focus is clearly visible as you tab through the elements, that is, you can tell which element has focus, e.g., links have a gray outline around them or are highlighted.
- Check that you can do everything with the keyboard; that is, you don't need the mouse to activate actions, options, visible changes, and other functionality.
- Check that after you tab into a drop-down list, you can use the arrow keys to move through all the options without triggering an action.
- Check that when images are links, they have clear visual focus and can be activated using the keyboard. (Enter key)

Forms, Labels, and Errors

- Form fields and other form controls usually have visible labels, such as “E-mail Address:” as the label for a text field.
- When these labels are marked up correctly, people can interact with them using only the keyboard, using voice input, and using screen readers. Also, the label itself becomes clickable, which enables a person who has difficulty clicking on small radio buttons or checkboxes to click anywhere on the label text.

What to Look for

Labels:

- Check that every form control has a label associated with it using 'label', 'for', and 'id'.
- Check that the labels are positioned correctly.

Required fields and other instructions:

- Check that any fields that are required/mandatory are clearly indicated.
- Check that any instructions for completing the form are before they are needed.

Errors:

- Check that clear and specific guidance is provided to help people understand and fix the error. If the error concerns a format such as date, time, or address, check that the correct format is clearly explained.
- Check that the errors are easily findable. Generally it is best if the error messages are before the form, rather than after the form.
- Check that the fields without errors are still populated with the data you entered. (This is best practice, though not a requirement.) People should not have to re-enter all the information in the form, except for some sensitive data such as credit card numbers.

Video & Audio

- Information in podcasts or other audio is not available to people who are deaf or some people who are hard of hearing, unless it is provided in an alternative format such as captions and text transcripts. Visual information in videos is not available to people who are blind or some people what have low vision, unless it is provided in an alternative format such as audio or text.
- A “description” attribute should be used within the Video/Audio tag. (Embed, Object, Video, Audio, etc.)

What to Look for

Keyboard Access:

Ensure that the media player controls are labeled and keyboard accessible.

Auto-Start:

It is best if audio (including background noise and video with sound) does not start automatically when a web page opens. If it does start automatically, it should either:

- Stop after 3 seconds.
- Include controls to pause or stop the audio.
- Include controls to turn down the volume.

Captions:

Most video on the web that provides captions has "closed captions" that can be turned on and off.

Automatic captions are not sufficient for accessibility because they are not accurate enough.

Captions in the specific language need to be listed.

What to Look for

Transcripts

A transcript for a video could provide all the audio and all the visual information, so that a person can get all the content of the video by reading the text.

Audio Description:

Audio description (sometimes known as described video, video description, or visual interpretation) is description of important visual information in a video, in order to make it accessible to people who cannot see.

Accessibility of Links to External Web Sites in Documentation

- I recommend you have some kind of statement within your site (i.e. – Legal Notices) that contains a statement like this:

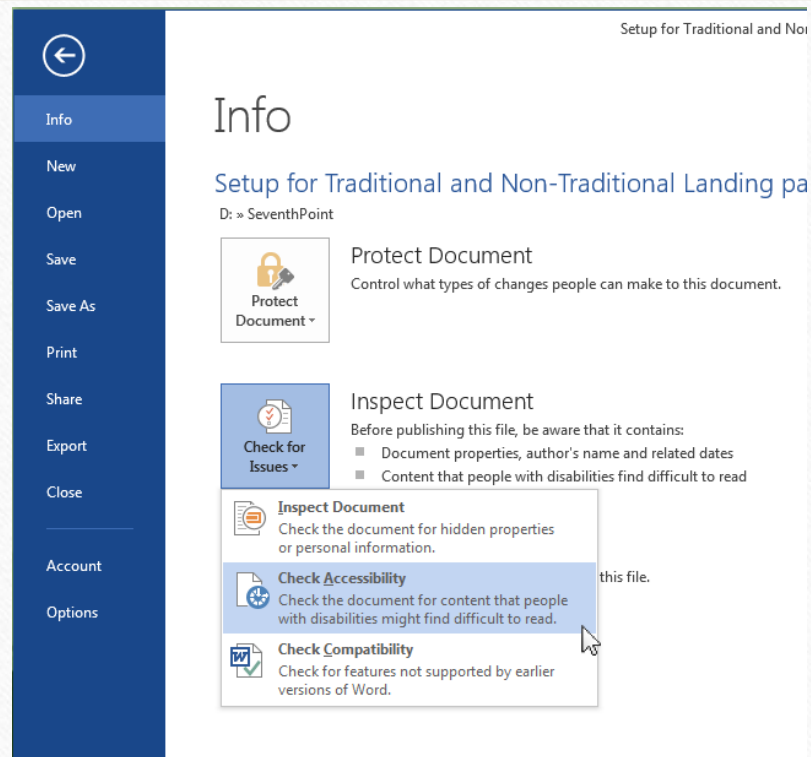
“This site may contain links to Web sites of other companies or organizations that our college does not own or control. Our college neither evaluates nor makes any representations regarding the accessibility of these Web sites.”

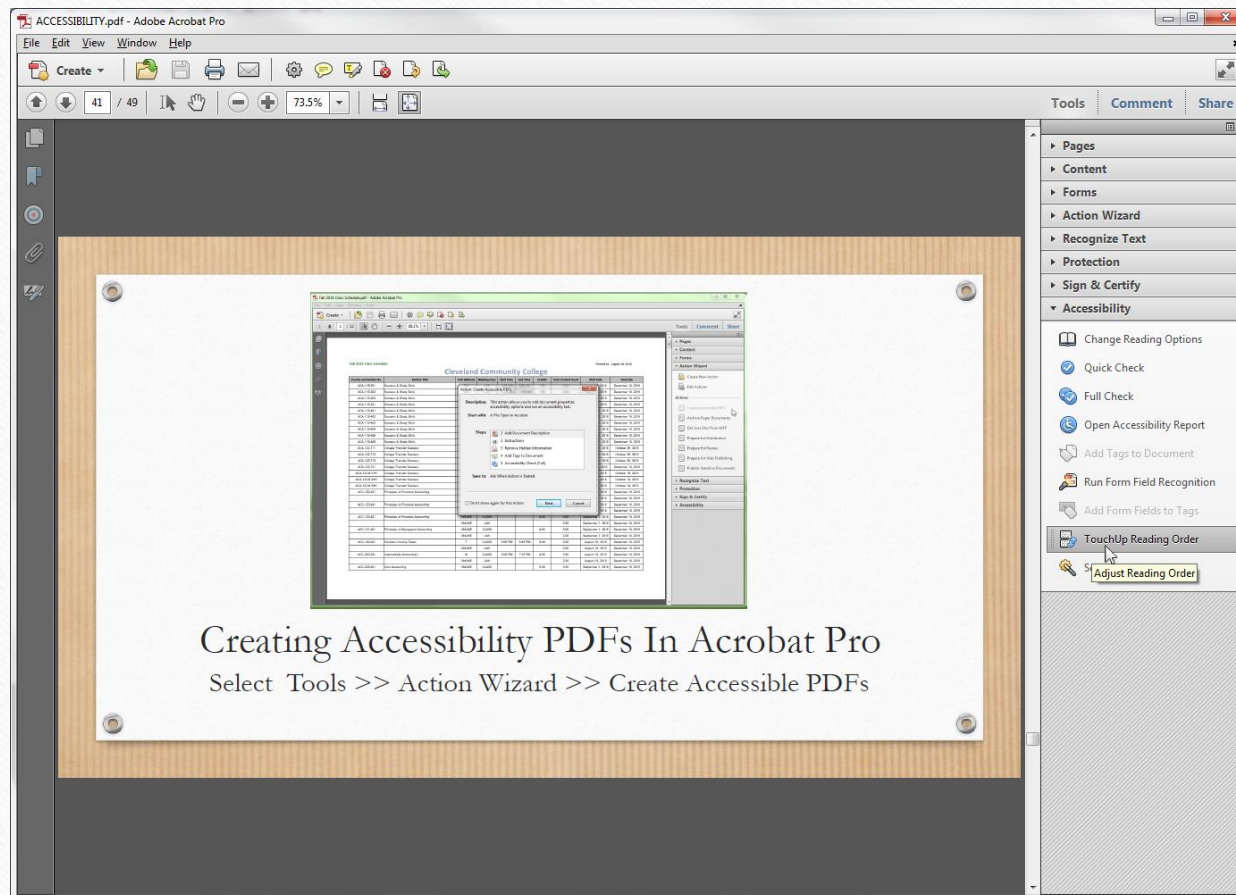
Accessibility in Word Documents

Resources

- <http://webaim.org/techniques/word/>
- <https://support.office.com/en-US/Article/Create-accessible-Word-documents-4fbb34d6-264f-4315-98d1-e431019e6137>
- <http://www.wikihow.com/Create-Accessible-Word-Documents>

Checking Accessibility in Word

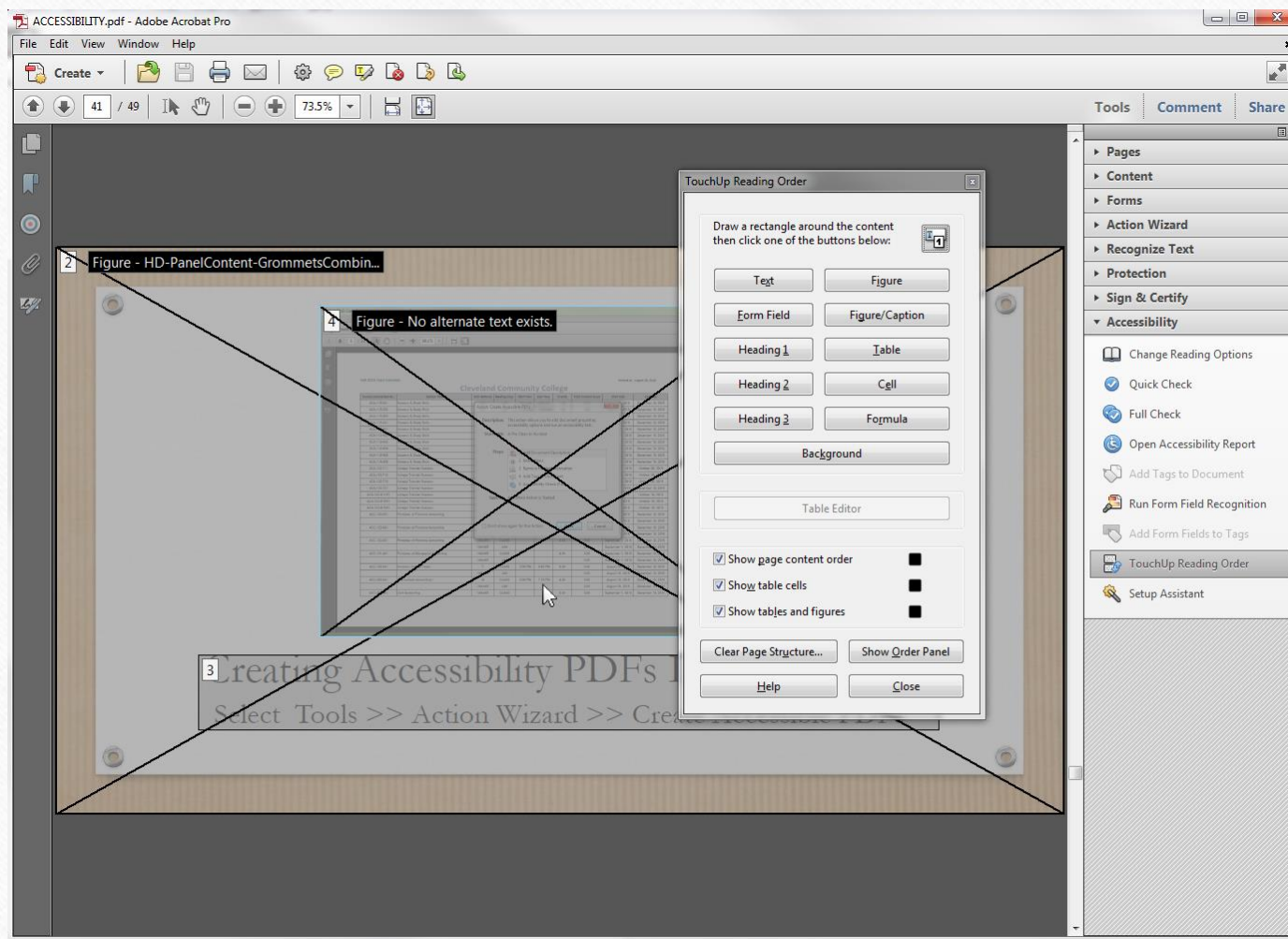




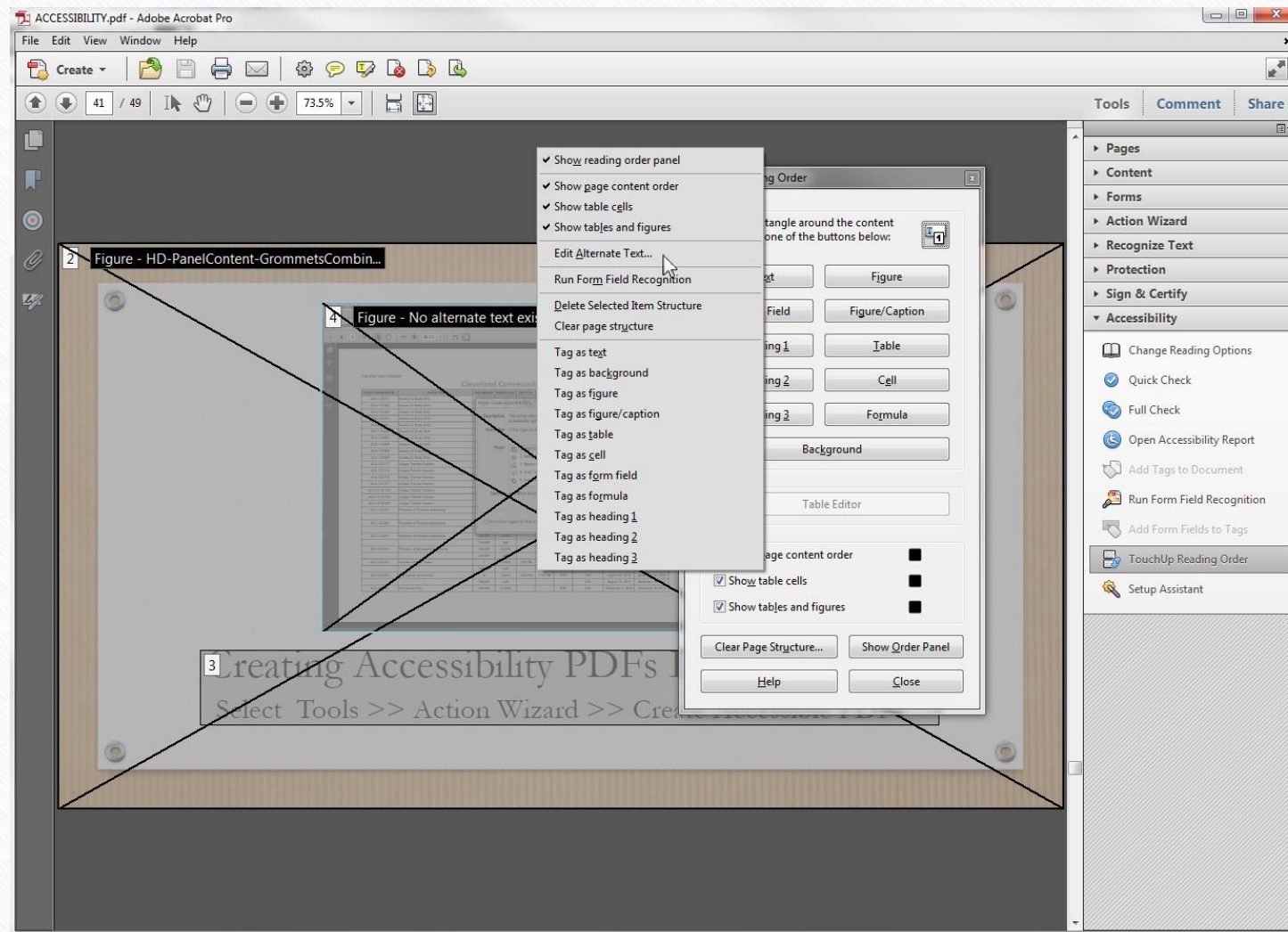
Creating Accessibility PDFs In Acrobat Pro
Select Tools >> Action Wizard >> Create Accessible PDFs

Creating Accessibility PDFs In Acrobat Pro

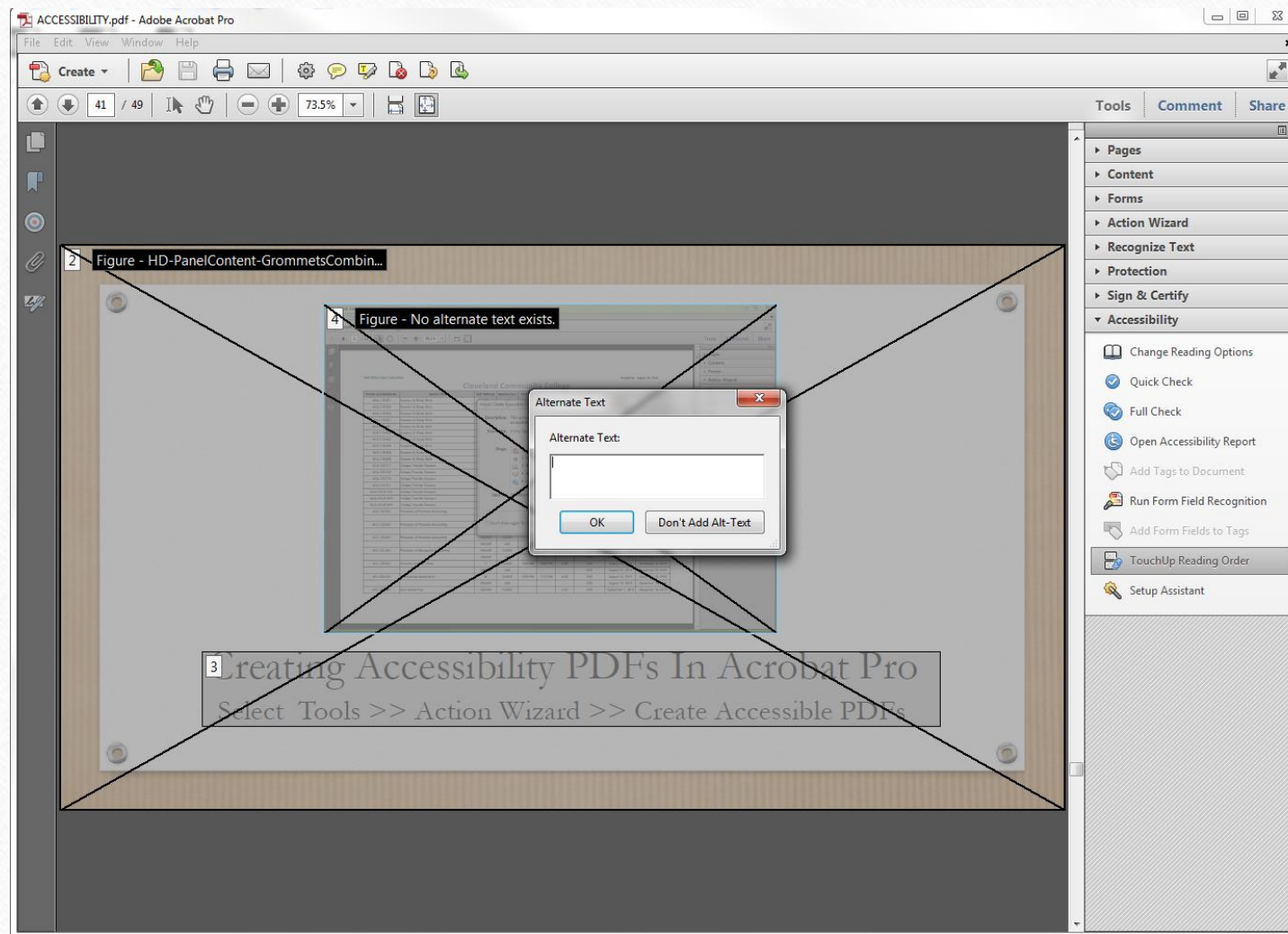
Select Tools >> Accessibility >> TouchUp Reading Order



Right-click on the element you want to edit.
(we're editing the image here)

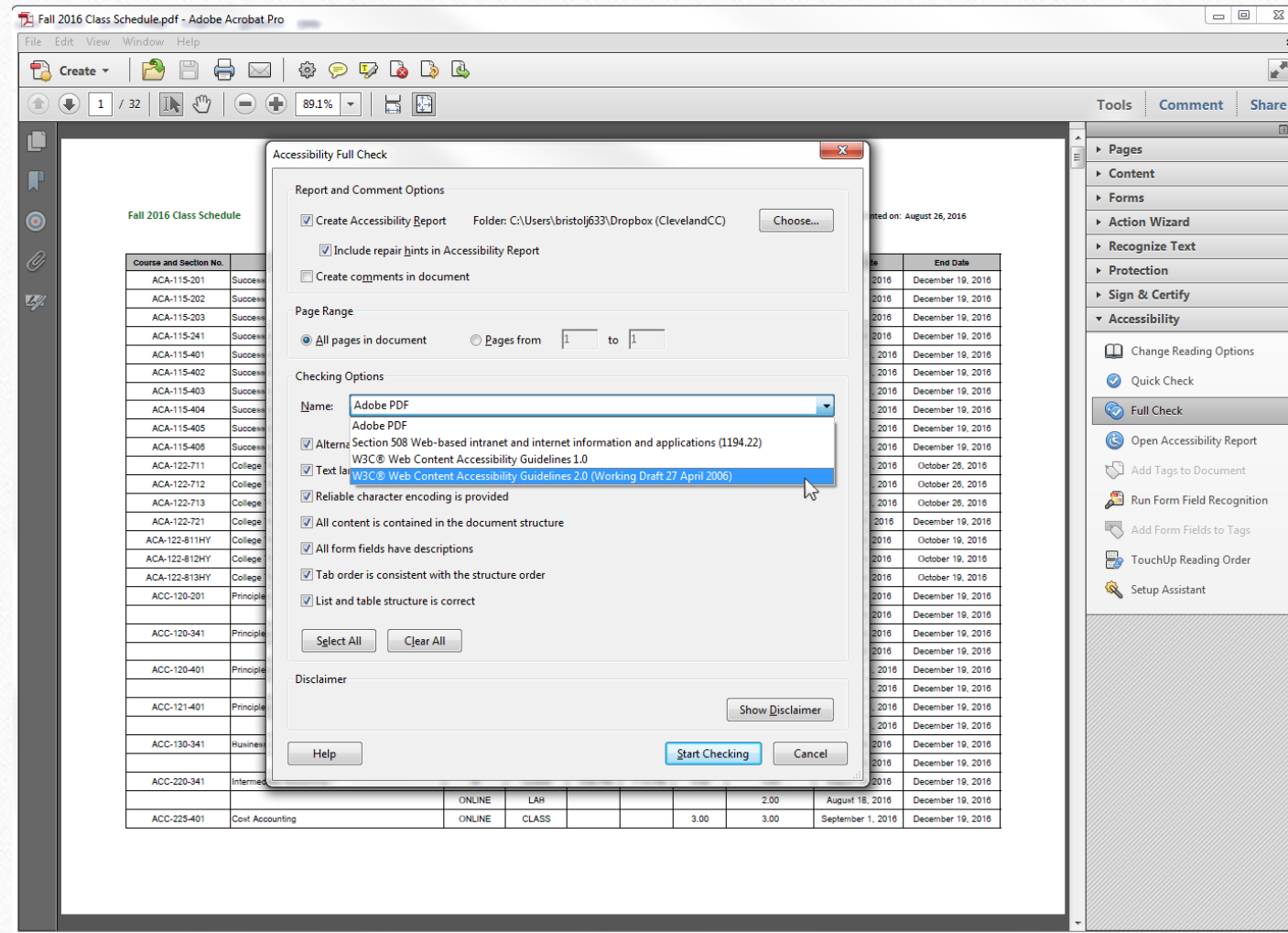


Select “Edit Alternate Text...” from the context menu.



Enter the text for the image.

When you're finished making all your changes, click FILE and save as a .pdf.



Click “Full Check” from the Accessibility menu. Be sure to select the “Checking Options” for the document.
 NOTE: When checking WCAG 2.0, check the level (1, 2, or 3) you want to check.

Fall 2016 Class Schedule.pdf - Adobe Acrobat Pro

File Edit View Window Help

Create [Icons]

1 / 32 62.1%

Tools Comment Share

Accessibility Report

Filename:
Fall 2016 Class Schedule.pdf

Checking Option:
[W3C® Web Content Accessibility Guidelines 2.0 \(Working Draft 27 April 2006\)](#)
 Level 1, 2, 3

Report Contents

- [Summary](#)
- [Hints for Repair](#)
- [Disclaimer](#)

Summary

The checker found problems which may prevent the document from being fully accessible.

WCAG 2.0 (Working Draft 27 April 2006) Level 1

- [1.1.1] Passed automatic verification
- [1.3.2] Needs manual verification by user
- [3.1.1] Passed automatic verification

13 checkpoints need manual verification.

- 1.3.3
- 2.1.1
- 2.2.1
- 2.3.1
- 2.4.1
- 2.5.1
- 3.1.1

Fall 2016 Class Schedule

Cleveland Community College

Printed on: August 26, 2016

Course and Section No.	Section Title	Instr Method	Meeting Days	Start Time	End Time	Credits	Total Contact Hours	Start Date	End Date
ACA-115-001	Business II Study Skills	MW	LAB	9:00 AM	9:50 AM	1.00	2.00	August 19, 2016	December 19, 2016
ACA-115-002	Business II Study Skills	MW	LAB	11:00 AM	11:50 AM	1.00	2.00	August 19, 2016	December 19, 2016
ACA-115-003	Business II Study Skills	TTH	LAB	2:00 PM	2:50 PM	1.00	2.00	August 19, 2016	December 19, 2016
ACA-115-004	Business II Study Skills	TTH	LAB	5:00 PM	5:50 PM	1.00	2.00	August 19, 2016	December 19, 2016
ACA-115-001	Business II Study Skills	ONLINE	LAB			1.00	2.00	September 1, 2016	December 19, 2016
ACA-115-002	Business II Study Skills	ONLINE	LAB			1.00	2.00	September 1, 2016	December 19, 2016
ACA-115-003	Business II Study Skills	ONLINE	LAB			1.00	2.00	September 1, 2016	December 19, 2016
ACA-115-004	Business II Study Skills	ONLINE	LAB			1.00	2.00	September 1, 2016	December 19, 2016
ACA-115-005	Business II Study Skills	ONLINE	LAB			1.00	2.00	September 1, 2016	December 19, 2016
ACA-115-006	Business II Study Skills	ONLINE	LAB			1.00	2.00	September 1, 2016	December 19, 2016
ACA-122-711	College Transfer Success	ONLINE	LAB			1.00	2.00	September 1, 2016	October 26, 2016
ACA-122-712	College Transfer Success	ONLINE	LAB			1.00	2.00	September 1, 2016	October 26, 2016
ACA-122-713	College Transfer Success	ONLINE	LAB			1.00	2.00	September 1, 2016	October 26, 2016
ACA-122-721	College Transfer Success	ONLINE	LAB			1.00	2.00	October 27, 2016	December 19, 2016
ACA-122-811HY	College Transfer Success	TTH	LAB	10:00 AM	10:50 AM	1.00	2.00	August 19, 2016	October 19, 2016
ACA-122-812HY	College Transfer Success	MW	LAB	11:00 AM	11:50 AM	1.00	2.00	August 19, 2016	October 19, 2016
ACA-122-813HY	College Transfer Success	TTH	LAB	4:30 PM	5:20 PM	1.00	2.00	August 19, 2016	October 19, 2016
ACC-120-001	Principles of Financial Accounting	TTH	CLASS	9:30 AM	10:50 AM	4.00	3.00	August 19, 2016	December 19, 2016
ACC-120-341	Principles of Financial Accounting	TTH	LAB	10:51 AM	11:45 AM	1.00	2.00	August 19, 2016	December 19, 2016
ACC-120-401	Principles of Financial Accounting	ONLINE	CLASS	9:00 PM	7:15 PM	4.00	3.00	August 19, 2016	December 19, 2016
ACC-121-401	Principles of Financial Accounting	ONLINE	CLASS			4.00	3.00	September 1, 2016	December 19, 2016
ACC-121-401	Principles of Managerial Accounting	ONLINE	LAB			4.00	3.00	September 1, 2016	December 19, 2016
ACC-121-401	Principles of Managerial Accounting	ONLINE	LAB			4.00	3.00	September 1, 2016	December 19, 2016
ACC-130-341	Business Income Taxes	T	CLASS	5:00 PM	6:45 PM	3.00	2.00	August 19, 2016	December 19, 2016
ACC-130-341	Business Income Taxes	ONLINE	LAB			3.00	2.00	August 19, 2016	December 19, 2016
ACC-220-341	Intermediate Accounting I	M	CLASS	5:00 PM	7:15 PM	4.00	3.00	August 19, 2016	December 19, 2016
ACC-220-341	Intermediate Accounting I	ONLINE	LAB			4.00	3.00	August 19, 2016	December 19, 2016
ACC-225-401	Cost Accounting	ONLINE	CLASS			3.00	3.00	September 1, 2016	December 19, 2016

Change Reading Options

- ☒ Quick Check
- ☐ Full Check
- ☐ Open Accessibility Report
- ☐ Add Tags to Document
- ☐ Run Form Field Recognition
- ☐ Add Form Fields to Tags
- ☐ TouchUp Reading Order
- ☐ Setup Assistant

Make any necessary corrections and run the “Full Check” again.
 If no changes needed, click FILE and save the document.

Web Page Accessibility Checkers

ATRC Web Accessibility Checker (<http://achecker.ca/checker/index.php>)

The ATRC Web Accessibility Checker is a free online service that checks your website for accessibility issues. You can use it by either supplying it with your website's address or by uploading the page you want to test from your browser.

WAVE Accessibility Tool (<http://www.wave.webaim.org/index.jsp>)

WAVE checks your web page for compliance with various accessibility standards. It loads the page or URL you supply, and re-displays it with icons placed at various parts of your page indicating whether that particular portion creates accessibility problems or not. You can use it for a page on the web, upload a page from your hard disk, install a toolbar in your browser or add a bookmarklet (a bookmark that executes a JavaScript) that when clicked will send the current page for evaluation.

Cynthia Says Portal (<http://www.cynthiasays.com/>)

Cynthia checks your site against the US Section 508 standards and the Web Content Accessibility Guidelines (WCAG). It only allows you to test one page at a time.

Web accessibility evaluation tools that help determine if a Web site is accessible.

<https://www.w3.org/WAI/ER/tools/index.html>

Screen Readers

<https://www.afb.org/ProdBrowseCatResults.asp?CatID=49>