

# WEBSITE AND DOCUMENT ACCESSIBILITY

ADA Coordinator Training – 9/13/2019  
Presentation By  
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# OUTLINE OF PRESENTATION

- **Website Accessibility**

- Laws
- Issues and Fixes
- Accessibility Evaluation Tools

- **Accessible Documents**

- Microsoft Word
- Microsoft PowerPoint
- Microsoft Excel
- Adobe Acrobat PDF



# WEB ACCESSIBILITY

# WHY THIS IS IMPORTANT

- The Internet is one of the ways we get most of our information currently.
- According to the Annual Disability Statistics Compendium, written by the University of New Hampshire's Institute on Disability, as of 2017, there are **320,775,014** people living in the community, in the U.S.
- Of those 320,775,014 individuals, **12.7%** reported one or more disabilities, which adds up to **40,678,654**.
- Those **40,678,654** individuals may have difficulty accessing websites if they aren't accessible.

# DESIGN ISSUES

## Vision

- Images and photos are un-viewable by user.
- Individuals cannot view videos.
- Data tables can only be interpreted visually.

## Color Blindness

- Colors are unusable.

## Hearing

- Audio elements are problematic.

## Motor

- Some users may not be able to use mouse functions.

## Cognitive

- Lengthy sections of text can be problematic.
- Complex layouts and navigational schemes.

# THE LAWS

# SECTION 504 OF THE REHABILITATION ACT

- According to WebAIM, Section 504 is a civil rights law that states, "No otherwise qualified individual with a disability in the United States... shall, solely by reason of her or his disability, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance."
- This includes government agencies, federally funded projects, K-12 schools, and post secondary education.

# SECTION 508 OF THE REHABILITATION ACT

- The United States Access Board states that Section 508 of the Rehabilitation Act requires that Federal Agencies that use electronic or information technology, are required to make it accessible for employees and the public, that is comparable to what's provided to individuals without disabilities.
- In other words, everyone is entitled the same access.
- **Refresh** added WCAG 2.0 A and AA success criteria.

# SECTION 508 REFRESH

Refresh of Section 508 went into effect Jan. 18, 2018.

Major Changes Include:

- Apply A and AA level conformance of WCAG 2.0.
- Specifying the types of non-public facing electronic content that must comply
- Address access for people with cognitive, language, and learning disabilities.
- Harmonizing the requirements with international standards.

# AMERICANS WITH DISABILITIES ACT

- Title III: states that no person "who owns, leases (or leases to), or operates **a place of public accommodation**" may discriminate "on the basis of disability in the full and equal enjoyment of the goods, services, facilities, privileges, advantages, or accommodations of any place of public accommodation.
- The ADA was created before the rise of the Internet. The DOJ was working on implementing more definitive standards but this has been withdrawn as of Dec. 2017.



# THE TARGET CASE

- NFB filed a lawsuit to Target for inaccessible website.
- Target tried to have suit dropped due to ADA not applying to websites.
- Case moved forward because goods were offered on website that were not offered in "brick and mortar" stores.

# NETFLIX

## NETFLIX

- National Association for the Deaf said Netflix violated Title III by failing to provide adequate closed captions on streaming content.
- Resolution was that by September 30<sup>th</sup>, 2014, Netflix would have 100 percent of it's online content captioned or subtitled.



## HILTON HOTEL CHAIN

- Allegations of failure to provide adequate means for individuals with disabilities to book a room online.
- Settlement agreement stated that all Hilton affiliated websites will have to be compliant with WCAG 2.0 by August 30<sup>th</sup>, 2011.



# UC BERKELEY

- UC Berkeley was offering online class content that was free for the public to use on channels such as YouTube and iTunes U.
- The content wasn't adequately captioned and audio description wasn't provided.
- The DOJ found UC Berkeley to be in violation of Title II of the ADA.

# KEEPING WEB ACCESSIBILITY IN MIND



# WCAG 2.0

- According to the World Wide Web Consortium, WCAG stands for Web Content Accessibility Guidelines.
- These 12 guidelines are meant for web developers, web accessibility evaluators, web tool developers, and **anyone who needs a standard for web accessibility.**
- The guidelines are based on four principles that ensure web content will be accessible.
- 1.0 focused on techniques. 2.0 focuses on principles which allow for more flexibility.

# WCAG 2.0 (POUR)

## Perceivable

- Web content must be presented to web users in ways they can **perceive**.

## Understandable

- The web content and format of the website must be **understandable** by the user.

## Operable

- Navigation of the website must be **operable** by the user.

## Robust

- Web content must be **robust** to be viewed with different facets of Assistive Technology.

# WCAG 2.0 GUIDELINES

## Perceivable

- Text Alternatives
- Time-Based Media
- Adaptable
- Distinguishable

## Operable

- Keyboard Accessible
- Provide Enough Time to Access Content
- Seizures
- Provide Ways to Navigate Content

# WCAG 2.0 GUIDELINES CONT.

## Understandable

- Readable
- Predictable
- Input Assistance (help users avoid and correct mistakes)

## Robust

- Maximize compatibility with a variety of current and future technologies. This includes AT.

# WCAG 2.0 CONFORMANCE

- **Level A:** (the minimum level of conformance), the web page satisfies all the Level A Success Criteria, or a conforming alternate version is provided.
- **Level AA:** The web page satisfies all the Level A and Level AA Success Criteria, or a Level AA conforming alternate version is provided.
- **Level AAA:** For The web page satisfies all the Level A, Level AA and Level AAA Success Criteria, or a Level AAA conforming alternate version is provided.

# POSSIBLE WEBSITE ACCESSIBILITY ISSUES

- Alternative Text for photos and graphics.
- Low contrast text color. Foreground and Background.
- Inability to read Word or PDF documents on a website, with the use of a screen reader.
- Lack of accurate or any Closed Captions.
- Scrolling Text or scrolling windows
- Website Formatting.

# WEBSITE ACCESSIBILITY FIXES PER WCAG 2.0

## Alternative Text

- Can be fixed by adding Alt-Text to any image button, logo, linked image, or regular photo.
- If the content of the particular image can be found in a nearby body of text, a null or empty alternative text should be added.
- Important to identify image as photo or painting if vital.

## Low Contrast Text

- Increase the overall contrast between the text and the background color.
- Color cannot be the only means of conveying meaning.
- Large text is at least 18 font or 14 font w/bold text.

# CHECKING FOR COLOR CONTRAST

WebAIM Color Contrast Checker

The screenshot shows the WebAIM Color Contrast Checker interface. It is divided into two sections: "Normal Text" and "Large Text".

**Normal Text**

WCAG AA: **Fail**  
WCAG AAA: **Fail**  
Sample:

**Large Text**

WCAG AA: **Pass**  
WCAG AAA: **Fail**  
Sample:

The Paciello Group Colour Contrast Analyser

The screenshot shows the The Paciello Group Colour Contrast Analyser interface. It has a menu bar with "Options", "Image", and "Help".

**Foreground**  
Colour select:  Hex:

**Background**  
Colour select:  Hex:

Show contrast result for colour blindness

**Result - Luminosity**  
Contrast ratio: 8.07:1  Display details

Text	Large text
<input checked="" type="checkbox"/> <b>Pass (AA)</b>	<input checked="" type="checkbox"/> <b>Pass (AA)</b>
<input checked="" type="checkbox"/> <b>Pass (AAA)</b>	<input checked="" type="checkbox"/> <b>Pass (AAA)</b>

# FIXES CONT.

## Formatting

- Reading and navigation order provided in a meaningful and intuitive sequence.
- Heading levels used appropriately.
- Instructions don't rely on visual elements for direction.

## Page Timing

- Page provides user with enough time to decipher and access content.
- Content longer than 5 seconds can be paused or stopped by the user.

# FIXES CONT.

## Website Assistance

- Required form elements are labeled within the form itself.
- Form validation is allowed but must have quick and intuitive methods for the user to go back and make corrections.
- Instructions, labels, and cues are provided to the user for assistance.

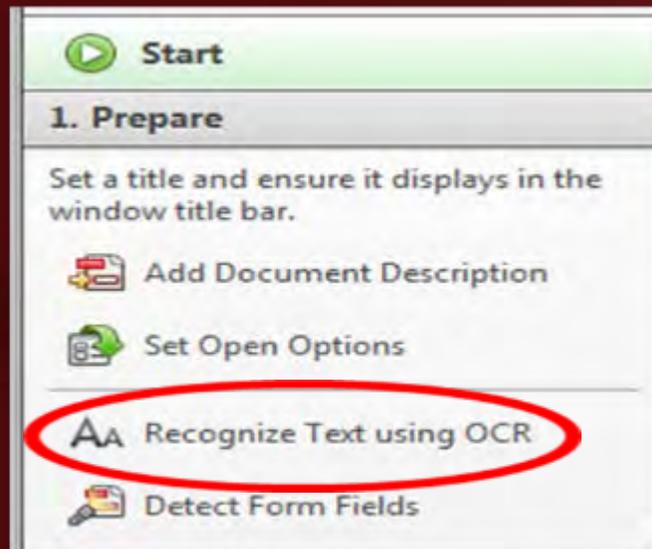
## Keyboard Usability

- Website access is available through the use of a keyboard.
- Includes being able to TAB through all the menus and fill out forms, if necessary.

# FIXES CONT.

## Readable Documents

- Documents can be made readable by screen readers by following the accessibility guidelines in PowerPoint.



## Audio Description and Captions

- Audio description provided for video content that is not available in the audio track.
- Synchronized (closed or open) captions are provided for pre-recorded video such as YouTube.





# WCAG 2.1

- The next phase of guidelines started on June 5<sup>th</sup>, 2018.
- Focus will primarily be placed on mobile accessibility, low vision, cognitive, and learning disabilities.
- Sites that conform to WCAG 2.1 will need to be compatible with 2.0 as well.

# WCAG 2.1 CHANGES

- Web content cannot be restricted to portrait or landscape mode unless necessary.
- Reflow: Horizontal scrolling is avoided when content is presented at a width of 320 pixels. For low vision users.
- Hovering content must remain visible while pointer or keyboard is on it.
- Timeouts: Users must be warned of any timeout that could result in the loss of input data.
- Pointer gestures: If the multipoint gestures are not essential to the functionality, then they can also be performed with a single point activation.

# CAPTIONING SOFTWARE

- Captionate
- Caption Wrap
- MAGpie
- Softel Swift
- Captioning within Vimeo
- Video Editing Suites like Final Cut, Adobe Premiere, Avid, Sony Vegas, Windows Movie Maker, iMovie.



# FINAL THOUGHTS

- Decorative vs. Informative alt-text.
- 100 words or less for alt-text is best practice.
- Guidelines and Checklists should be used as a support for accessibility.
- Form elements should be labeled properly, before the question is asked. Don't forget about labeling required form fields.
- No need to add accessibility badges.

# WEBSITE EVALUATION TOOLS

- **WAVE:** <http://wave.webaim.org/>
- **Functional Accessibility Evaluator 2.0:**  
<https://fae.disability.illinois.edu/anonymous/?Anonymous%20Report=/>
- **AChecker:** <http://achecker.ca/checker/>
- **Accessibility Valet:**  
<http://valet.webthing.com/access/url.html>
- **508 Checker:** <http://www.508checker.com/>



CDC WEBSITE

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

# DOCUMENT ACCESSIBILITY

# MICROSOFT WORD



# WHY THIS IS IMPORTANT

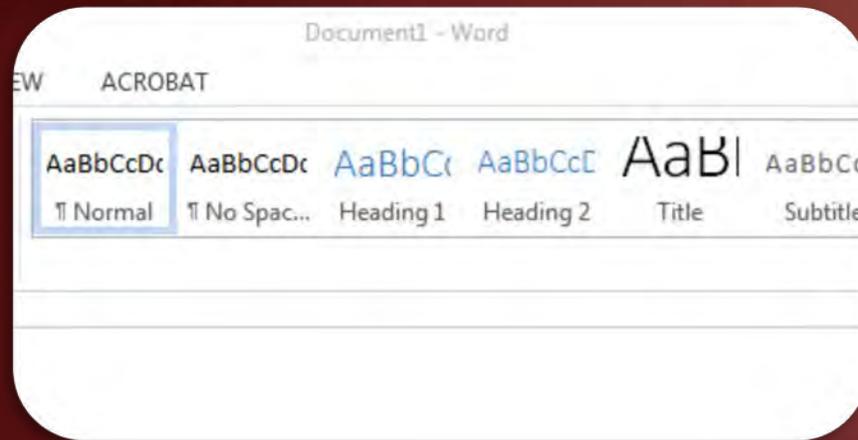
- Documents are shared everyday on the web.
  - Via email sharing or through websites
- Microsoft Word is the most commonly used word processor in the world. "Has become the NORM."
- PowerPoint is also the go-to for creating slide shows, for example.
- PDFs are often created from a Word document.
- We need to make strides to create more accessible documents.

# WHY IS ACCESSIBILITY IMPORTANT



# USE APPROPRIATE DOCUMENT STYLES

- When creating a Word document, remember to use heading and paragraph styles in order to create a structure for the document.



- Most individuals just create different font **SIZES** or use **BOLD**.

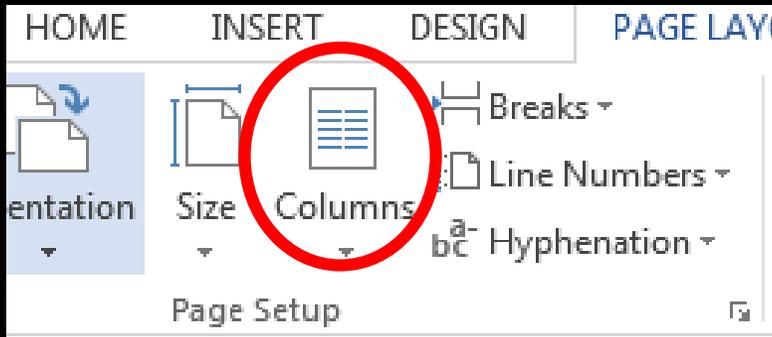
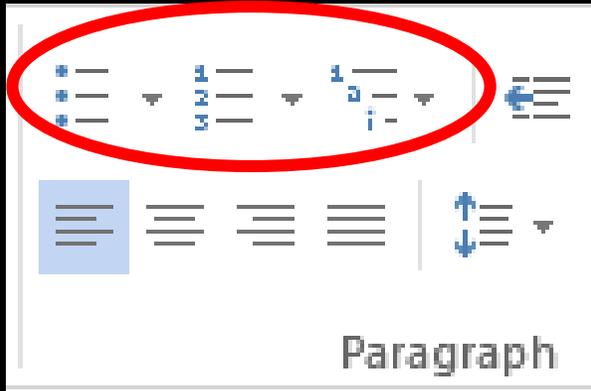
# DOCUMENT STYLES CONT.

- This will allow AT, like screen readers to move through a Word document with ease, from left to right.
- When exporting to either a PDF or HTML, the Word document will retain its structure.
- The goal is to keep the document clean and have a structure that goes from one heading to the next.

# LISTS AND COLUMNS

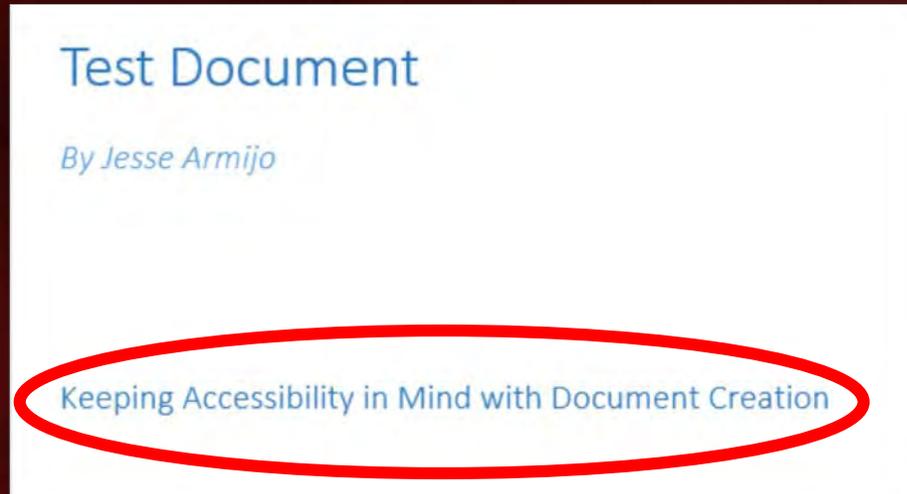
Lists and columns can be used to break up and simplify content for individuals with cognitive disabilities.

Using these tools also provides the proper mark up for assistive technology.



# HAVE SHORT HEADING TITLES

- Try and keep heading titles under 20 words or within the first line.



- The above title only has 7 words. Keep it short and sweet.

# USE APPROPRIATE NAMES FOR HYPERLINKS

- More often than not, you'll see a link that just says: **CLICK HERE.**
- Screen Reader users will not know what they are clicking into and this can cause confusion.

[Click here for links to accessible documents.](#)

VS.

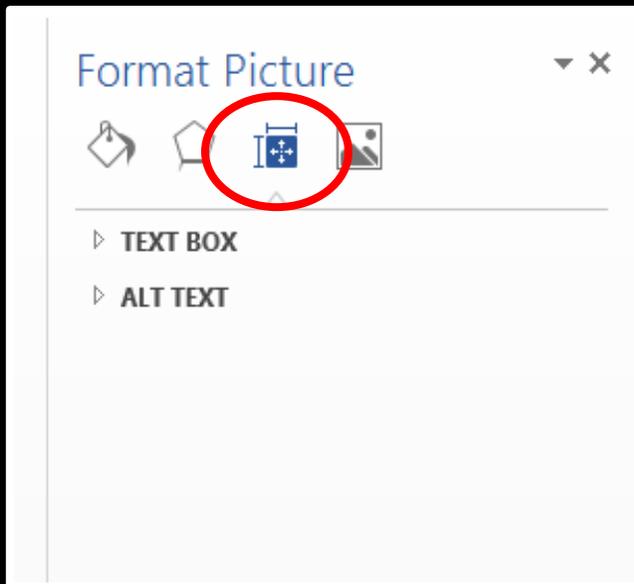
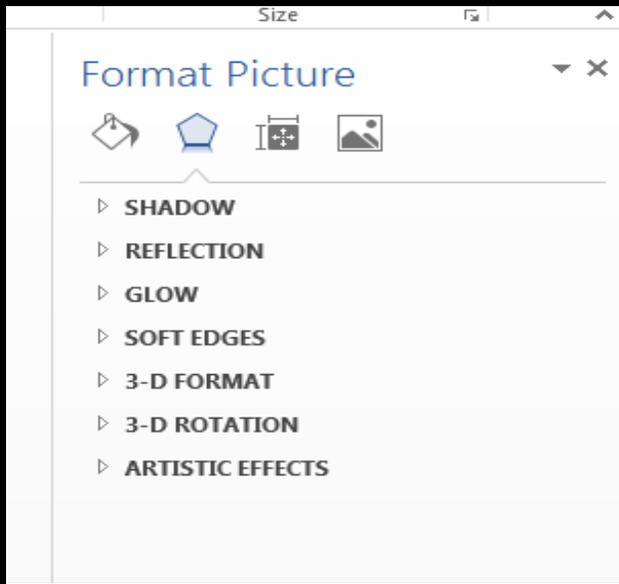
Accessible Documents  
[Click Here](#)

Describe the Link

# ALTERNATIVE TEXT

- Alternative Text is important because it will let individuals who are blind or visually impaired, know what the content is of a non-text graphic.
- Without Alternative Text, screen reader users will not know that there are any graphics on the page.

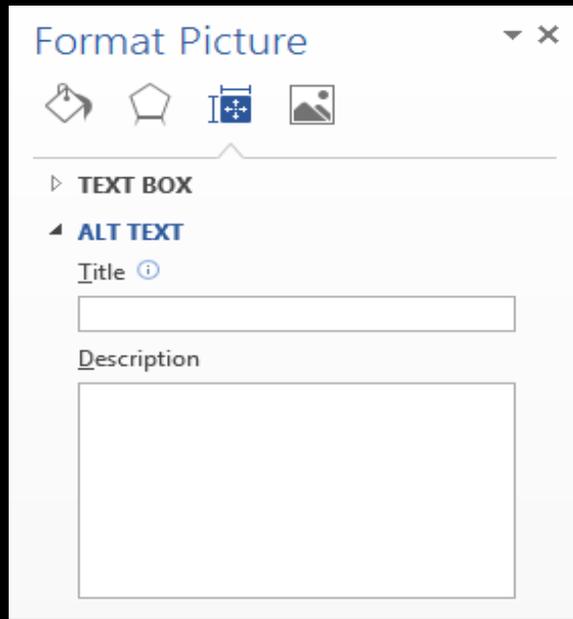
This is unacceptable.



# HOW TO ADD ALTERNATIVE TEXT

STEP 1 - Right click your picture and select the option at the bottom of the screen called **FORMAT PICTURE**.

STEP 2 - Select the third option, which is highlighted to left. Under this option, open the tab that says **ALT TEXT**.



# ALTERNATIVE TEXT CONT.

STEP 3 - Once the Alt Text is selected, you will see two options to choose. **TITLE** and **DESCRIPTION**.

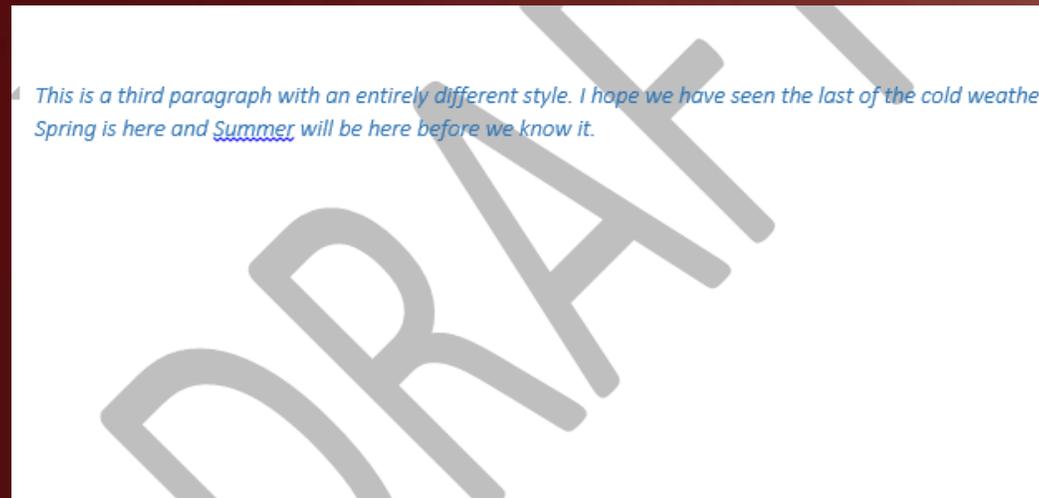
STEP 4 - Add the Alternative Text to the **DESCRIPTION**. Text entered in Title field will not transfer over when you export to a PDF or HTML.

# AVOID BLANK CHARACTERS

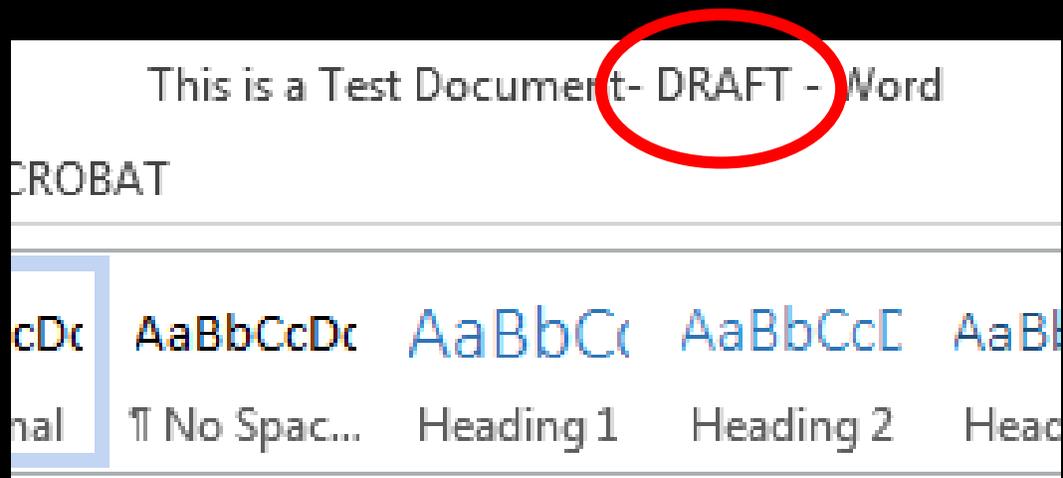
- Avoid adding any extra spaces to the Word document. This also includes extra paragraphs or tabs.
- If these are left in the Word document, this can cause screen reader users to hear the word “Blank” which can cause confusion.
- Formatting is key to avoid this confusion and adding correct indentation where applicable.

# WATERMARKS

- When creating documents, you will also want to be wary of using watermarks.
- Watermarks can be troublesome to individuals with visual impairments or cognitive disabilities.



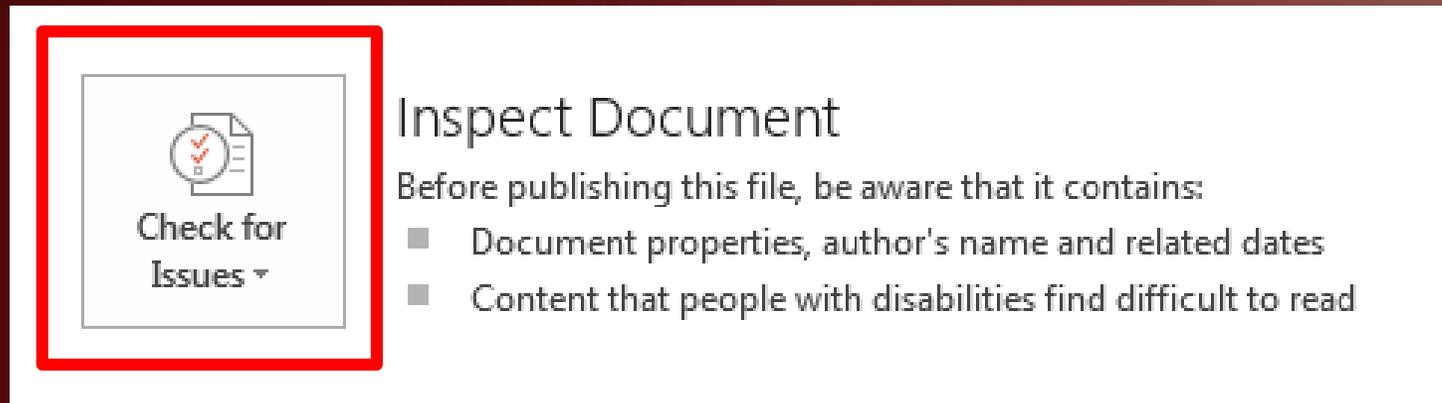
# WATERMARKS CONT.



Instead of adding a watermark to the entire document, the creator can simply put the words **DRAFT**, **CONFIDENTIAL**, **URGENT**, etc. as the document title or heading.

# ACCESSIBILITY CHECKER

- Microsoft Word also comes with a built-in accessibility checker for document creators.

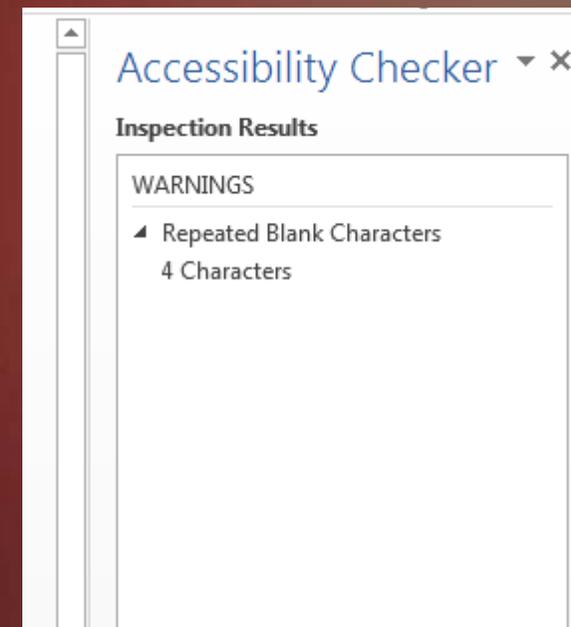


- After the document is complete, run it through the accessibility checker and see if it catches any errors.

# ACCESSIBILITY CHECKER CONT.

Once the Accessibility Checker is on, it will scan the whole document for warnings. It will show you the warnings on the right panel.

When you click on one of the issues, it will send you to where they are located on the page, and allow the creator to fix them.



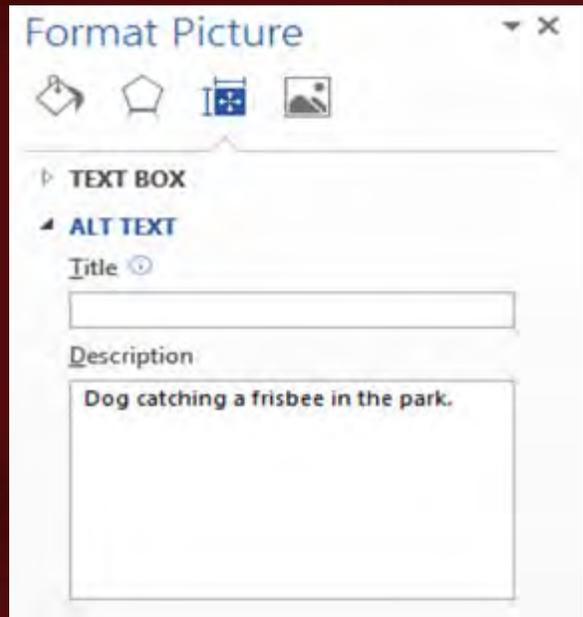
This is a good way to check accessibility, but it is always a good rule of thumb to do a more comprehensive check.

# MICROSOFT POWERPOINT



# SIMILAR ISSUES THAT MAY ARISE WITH POWERPOINT

- **Alternative Text:** Can also be fixed by adding a description for each photo or graphic.



- **Hyperlinks:** Make sure to use appropriate names for hyperlinks, to avoid confusion for screen reader users.

[Click here for links to accessible documents.](#)

VS.

**Accessible Documents**

[Click Here](#)

# GIVE EACH SLIDE A PROPER TITLE

- Keep them concise and to the point. Try to keep it on one line if possible.
- An individual, who is using a screen reader, will navigate through the PowerPoint and use the titles as a way to find the right content.

Assistive Technology for Hearing

# DATA TABLES

- Can present content in an organized way.
- Make a simple data table using the formatting ribbon.
- NEVER draw a table.
- Remember to include alt-text for the table.

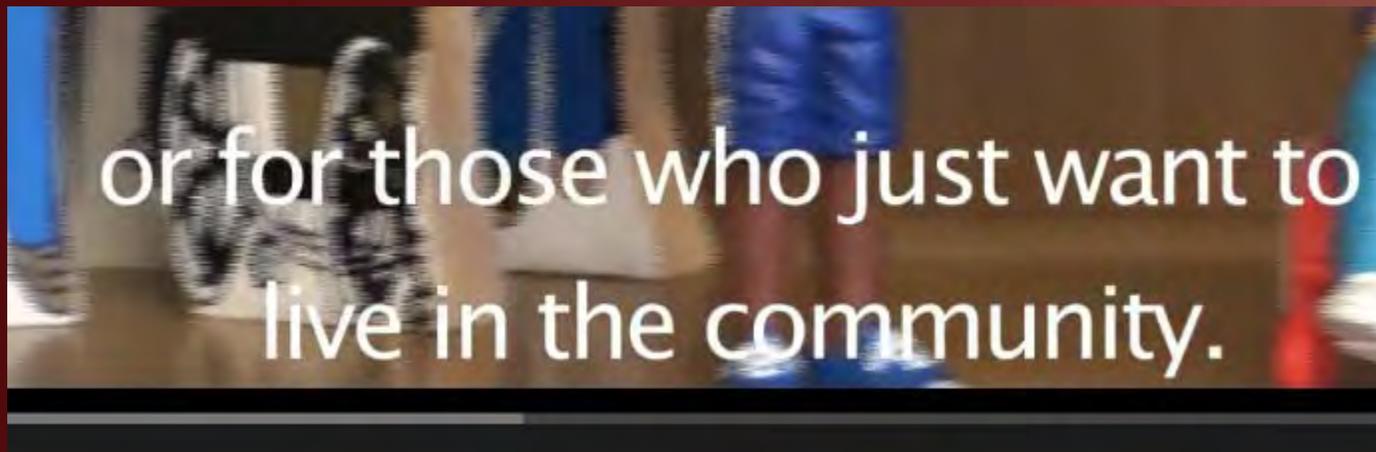
Name	Favorite Food	Favorite Color
Charlie	Enchiladas	Orange
Sophia	Spaghetti	Purple

# READING ORDER

- Someone using a Screen Reader will have these items on a slide read back to them.
- You will want to make sure the items are read back in the order that you want.
- As the document creator, make sure the content is displayed properly for individuals with visual impairments.

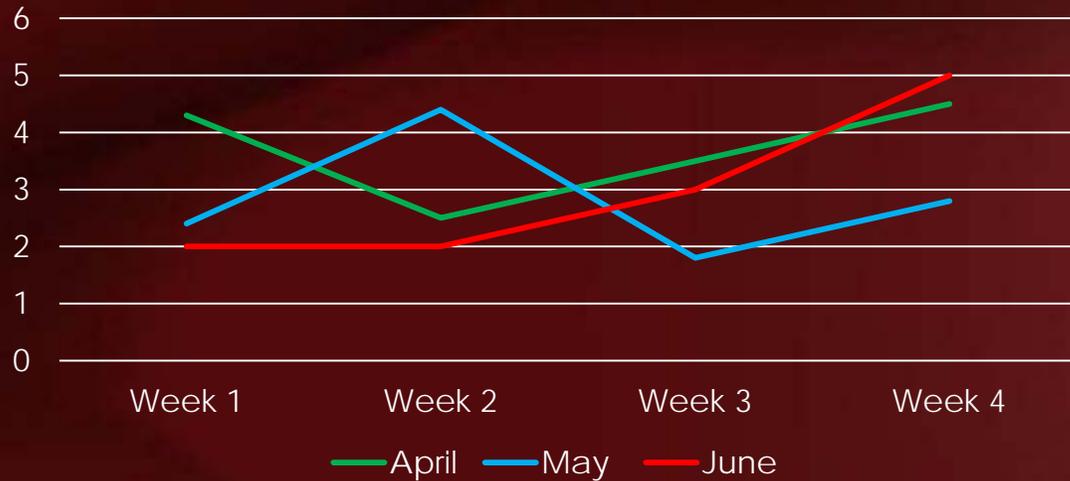
# VIDEO CLOSED CAPTIONS

- All video and audio components need to have closed captioning or audio description.
- For any embedded audio, a transcript could also be provided to the user.
- Below is an example of "Open Captioning"

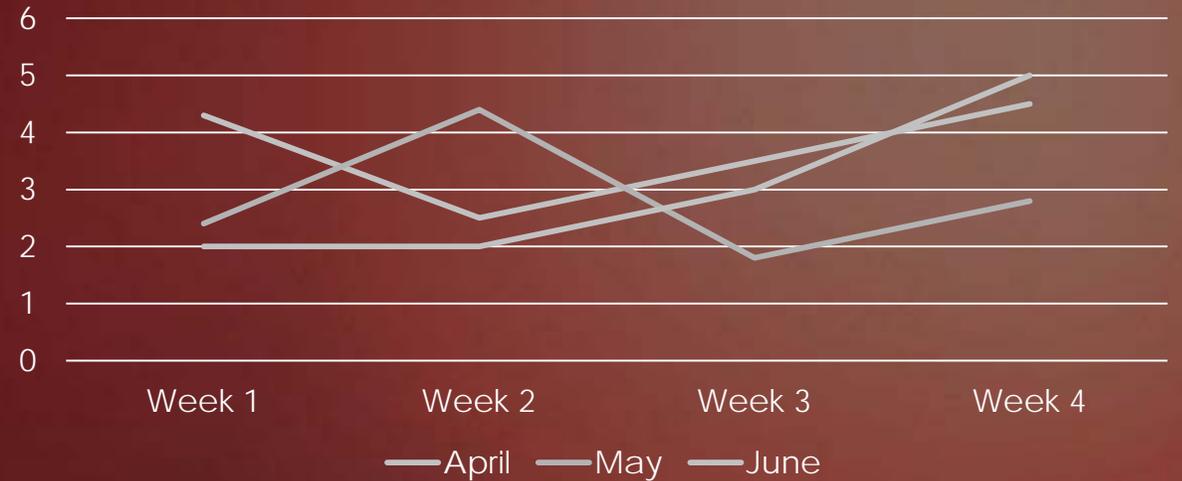


# DON'T USE COLOR TO CONVEY MEANING

Sales for 2016

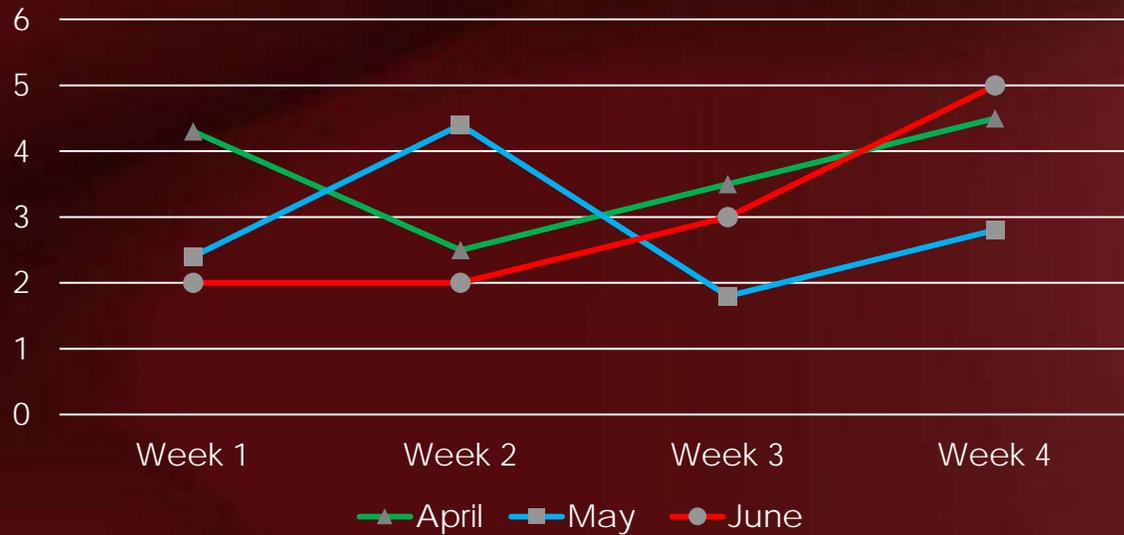


Sales for 2016

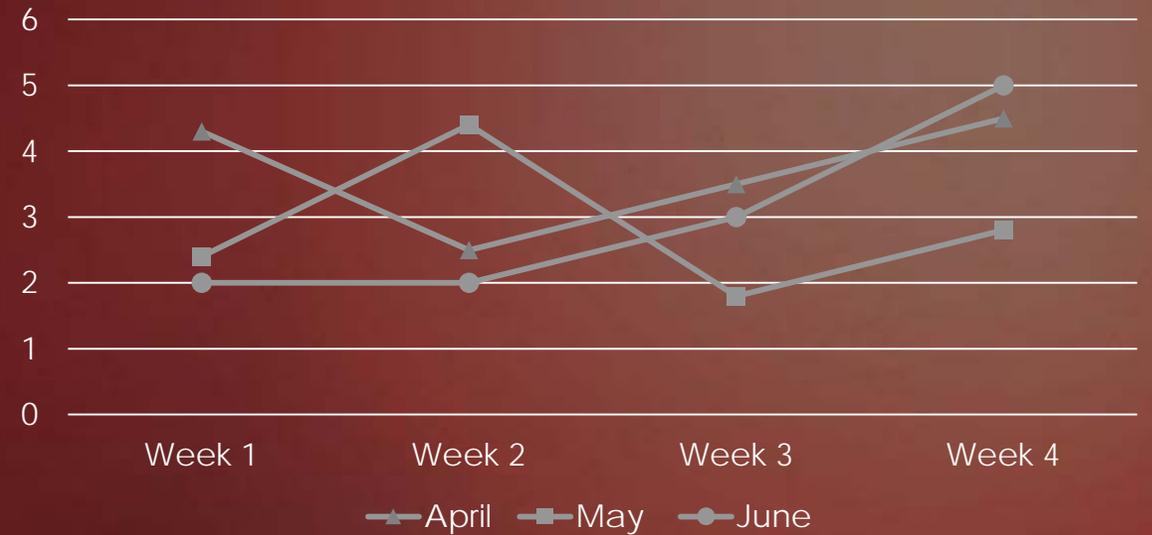


# BEST WAY TO SHOW COLOR

Sales for 2016



Sales for 2016



# OTHER ISSUES TO BE AWARE OF

- Color choices for PowerPoints.
- Fill in the document properties of the PowerPoint. This will include the title, subject, and author.
- Double check the font size, especially if the PowerPoint will be displayed on a projector.
- Avoid complex or automatic slide transitions when possible. This can be troublesome for cognitive disabilities.
- Use simple language on the slides. Keep it clear and concise.
- You can also use the ACCESSIBILITY CHECKER for this program.

# MICROSOFT EXCEL

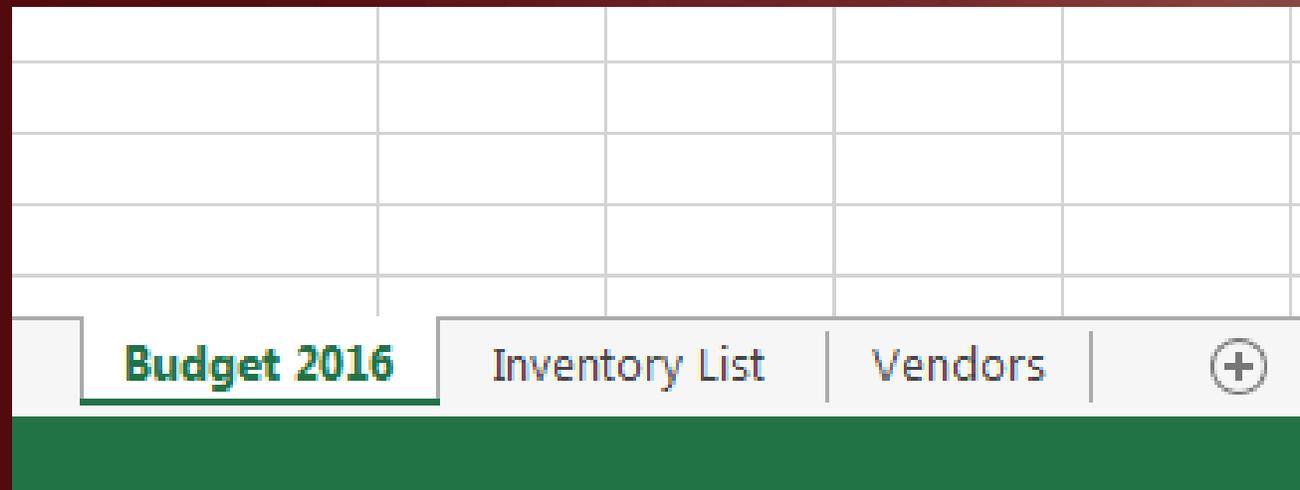


# SIMILAR ISSUES THAT MAY ARISE WITH EXCEL

- Remember to add Alt-Text to any graphics you may be including in the excel spreadsheet.
- Keep color in mind when forming your spreadsheet. Use high contrast colors. Try printing in Black/White to see how it reads.
- Make sure to use appropriate names for hyperlinks, to avoid confusion for screen reader users.
- Add document properties that include the subject, title, and author of the spreadsheet.

# NAME THE SPREADSHEET TABS

- Give each spreadsheet tab a name so it can be identified by the user. This will also make it easier for a screen reader user to navigate through the workbook.
- Do not leave blank sheets in the spreadsheet. Delete them before completion.



# TITLES FOR COLUMNS

- Keep your titles in the first row and column for each new category.
- This is important because screen readers will read from left to right.

	A	B	C	D
	Test Title #1	Test Title #2	Test Title #3	Test Title #4



# BLANK CELLS WITHIN THE SPREADSHEET

- In addition to having blank rows and columns, you will want to make sure you don't have blank spaces where data should be.
- Even if there is nothing to report, indicate this with either **"No Data Reported"** or **"Cell Left Blank"** to avoid confusion for screen readers.

C	D
Test Title #3	Test Title #4
45456	545613
17864	45644
312313	1231231
Cell Left Blank	No Data Reported

# DENOTE THE END OF THE SPREADSHEET

- When you finish creating your spreadsheet, be sure to indicate that the document is finished with a simple indicator like "End of Document."
- This will alert the screen reader user that there is no more data to be reported and the spreadsheet is finished.

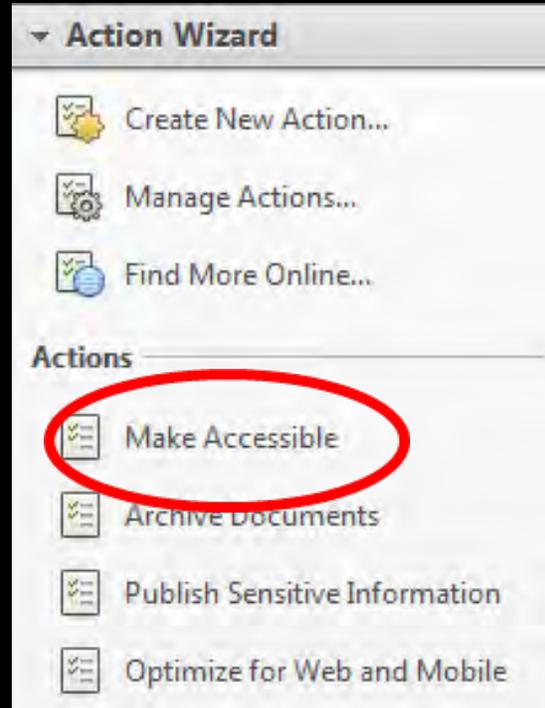
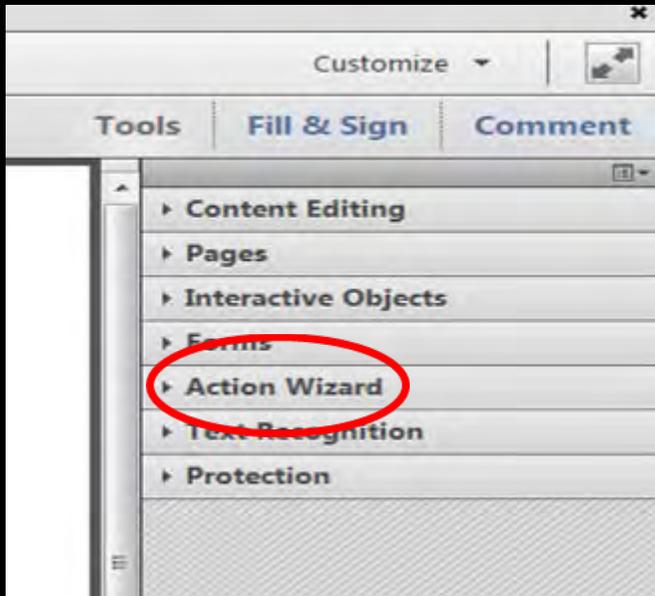
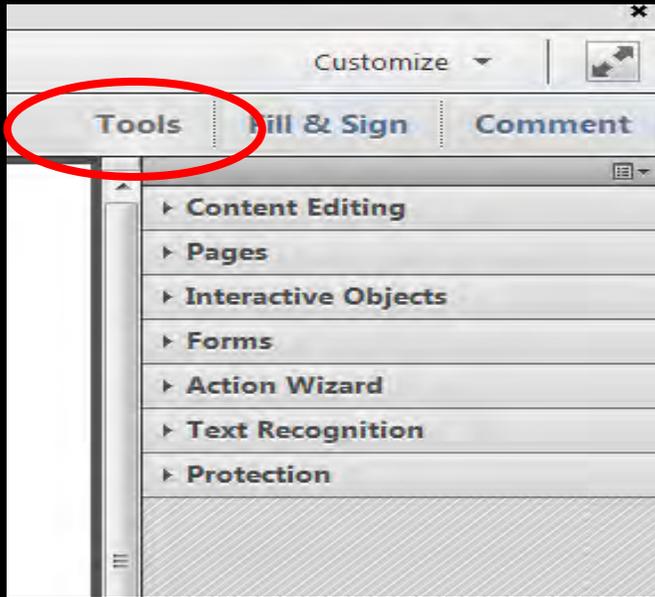
Month One	43431	4564563	1231234
Month Two	789646	56453	3431434
Month Three	643417	43313543	12354
Month Four	1231234	45313545	123453
Month Five	994564	884638	47348
End of Document			

# ADOBE ACROBAT PRO PDF



# SIMILAR ISSUES THAT MAY ARISE WITH PDF

- Most times, you will be creating a PDF from a Word document. It will help if your Word document source is already accessible, which will limit the amount of items that need to be fixed.
- These items can be Alt-Text, Color Contrast, etc.
- There is a way to make a document accessible once it is in Adobe Acrobat PDF.

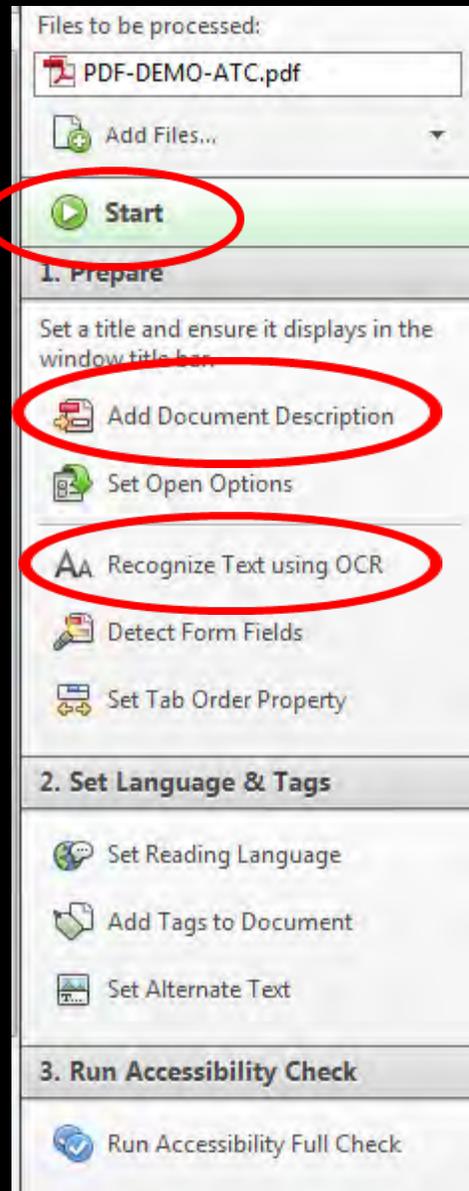


# MAKING A PDF ACCESSIBLE

STEP 1- On the right side of the PDF, select the **TOOLS** button, which will bring a menu of different choices.

STEP 2- From the menu, you will want to select the **ACTION WIZARD** option, which will open up more choices.

STEP 3- Select the button that is marked, **MAKE ACCESSIBLE**. This will bring up a checklist to make the PDF accessible for individuals with disabilities.



# MAKING A PDF ACCESSIBLE CONT.

STEP 4- You will hit the **START** button and then follow each step toward adding accessibility features to the document.

STEP 5- **Document Description** will allow you to add a title, author, subject, and keywords.

STEP 6- **Recognize Text using OCR** will scan the entire document for readable text, therefore making sure it can be read by a screen reader.

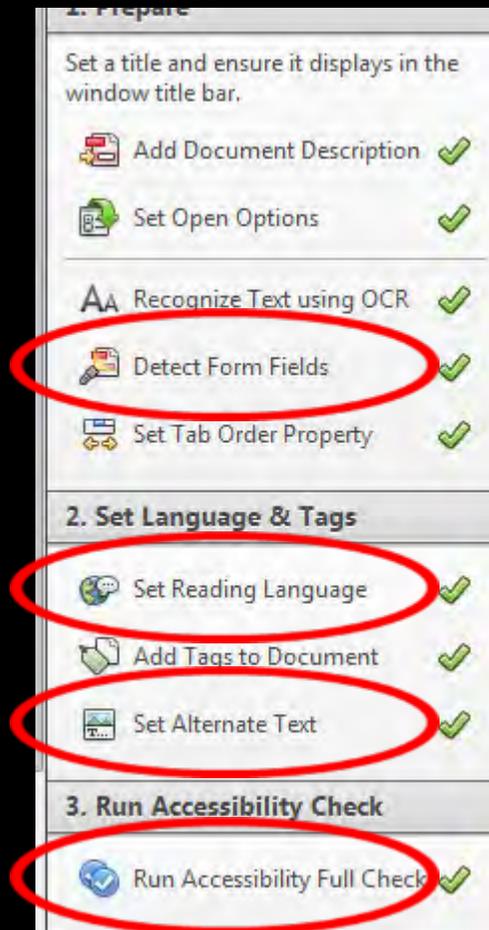
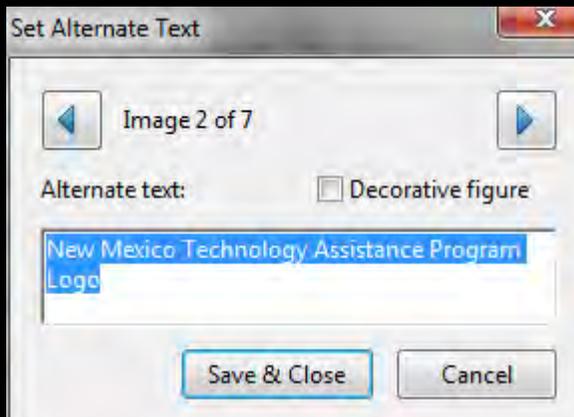
# MAKING A PDF ACCESSIBLE CONT.

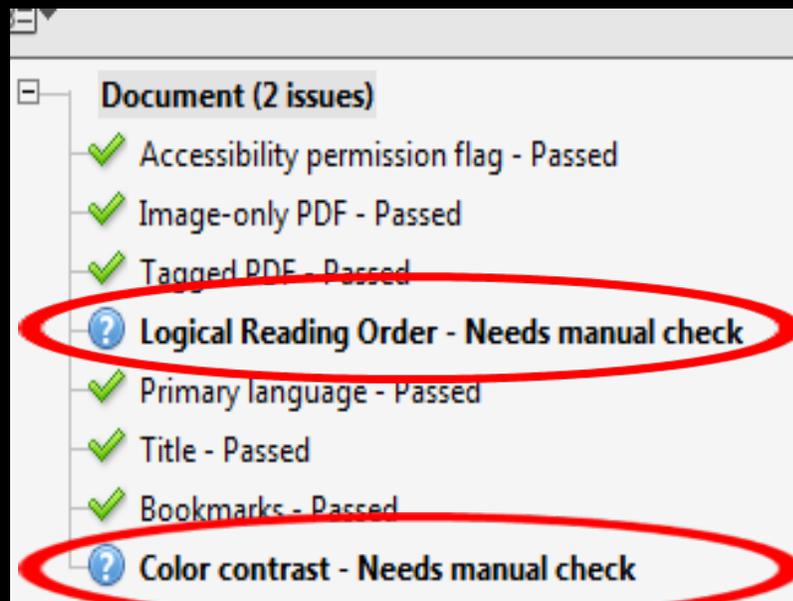
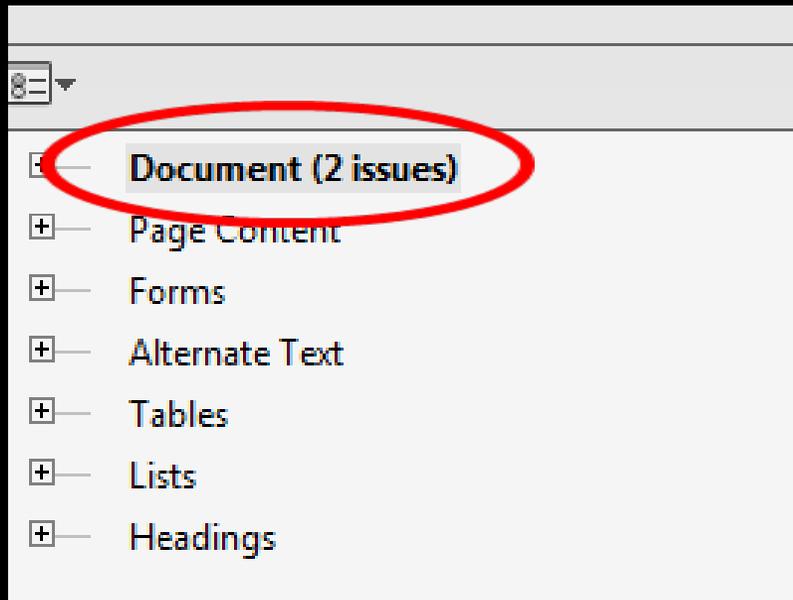
STEP 7- You have the option to scan the document for any **FORM FIELDS**, to turn it into a fillable form.

STEP 8- Next, you can set the **READING LANGUAGE**. This will indicate in which language the screen reader will read the text.

STEP 9- Next, you can add **ALTERNATIVE TEXT** to any graphics on the page.

STEP 10- Once you reach the final step, **RUN ACCESSIBILITY FULL CHECK**.





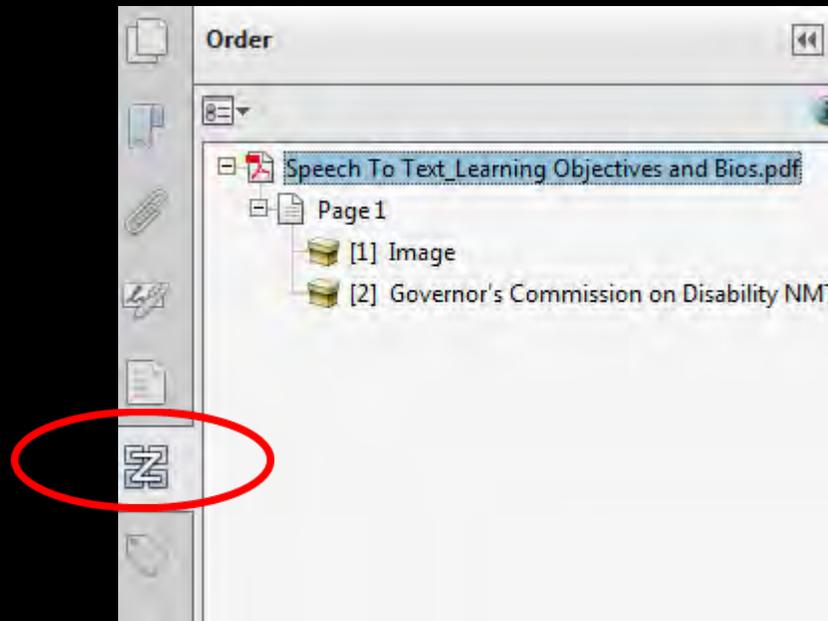
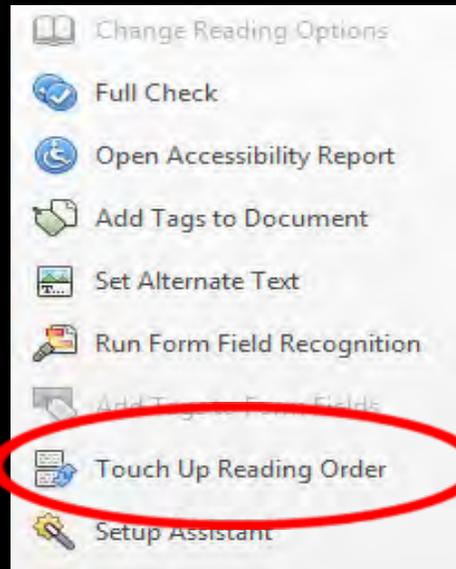
## MAKING A PDF ACCESSIBLE CONT.

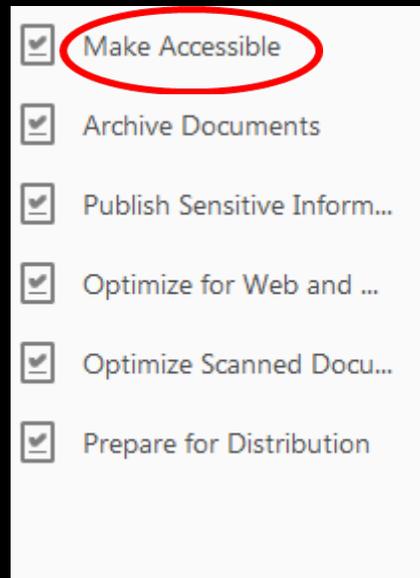
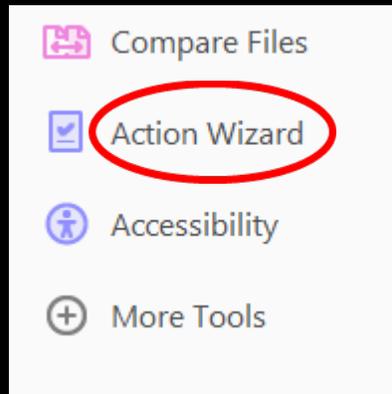
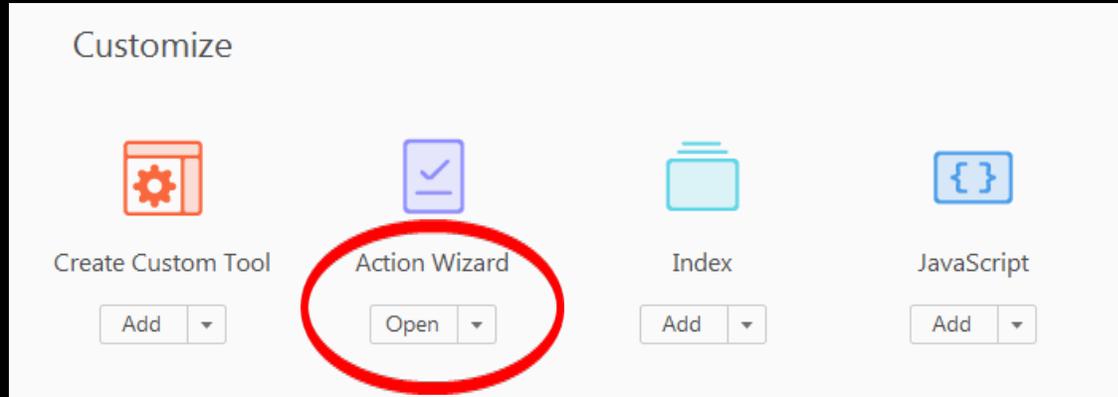
STEP 11- When the **ACCESSIBILITY CHECK** is complete, it will pull up a report for any known issues. Remember, it might not pick up every issue.

STEP 12- On my test document, it picked up issues that need to be checked in the original document. I will have to manually go back and make these changes to make it accessible.

# READING ORDER

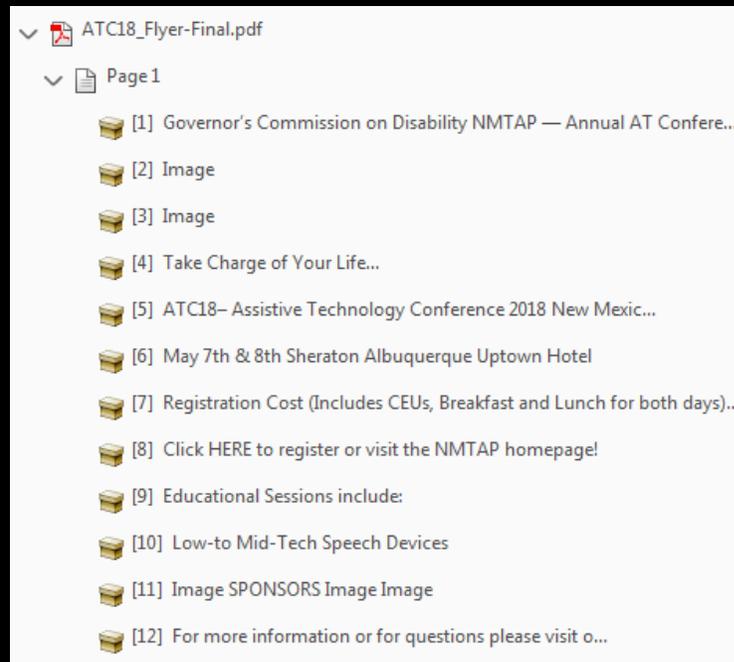
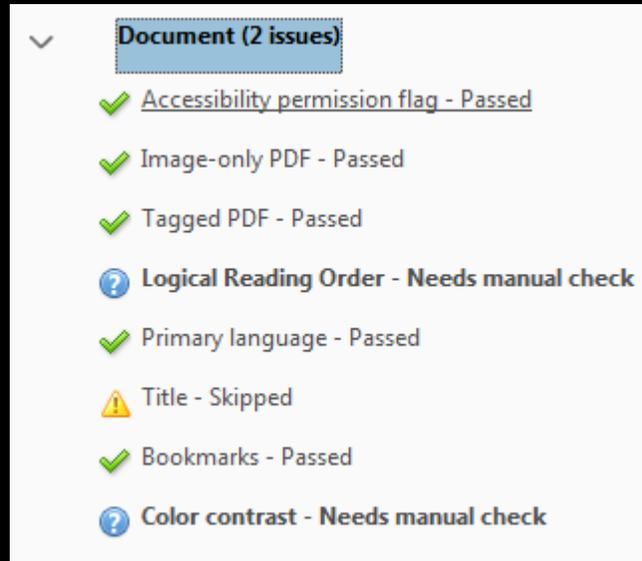
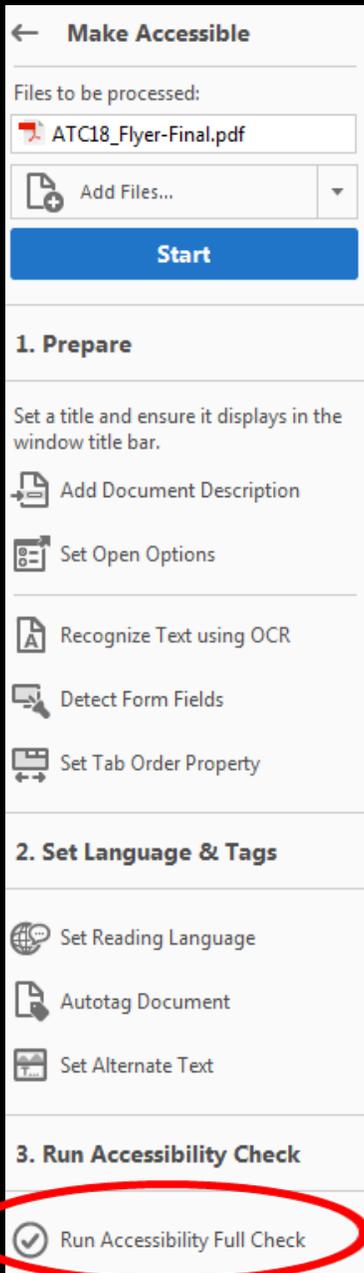
- The **Touch Up Reading Order** button will allow you to properly order how the document will be read back by a screen reader.
- It will also allow you to label items as headings, text, figures, etc.
- Sometimes Adobe PDF puts the text in a strange order. Always good to do a second check and make changes if necessary.





# ADOBE ACROBAT PRO 2017

- The steps to make a PDF accessible are the same in Adobe Acrobat Pro 2017.
- The main difference you will see is the look of the buttons.
- If the **Action Wizard** hasn't been added to the toolbar, this will need to be the first step to take.



# ADOBE ACROBAT PRO 2017

- Once you go through the steps you will on the accessibility checker, you will run a full check, and fix any pertaining issues.
- This version of Acrobat also allows the user to go about correcting the reading order of their document, if necessary.

# LOOK AT SCREEN READABLE PDF



# FINAL THOUGHTS ON PDF

- Remember to check for color contrast on your document. This may have to be a manual fix.
- If you are scanning a document into a PDF, be sure that it has readable text. If not, you may have to create the PDF from the original document or manually add in the text.
- Check the reading order of the PDF, this goes back to how it was originally formatted in Word. If there are fillable fields, check the TAB order of the fields.

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