

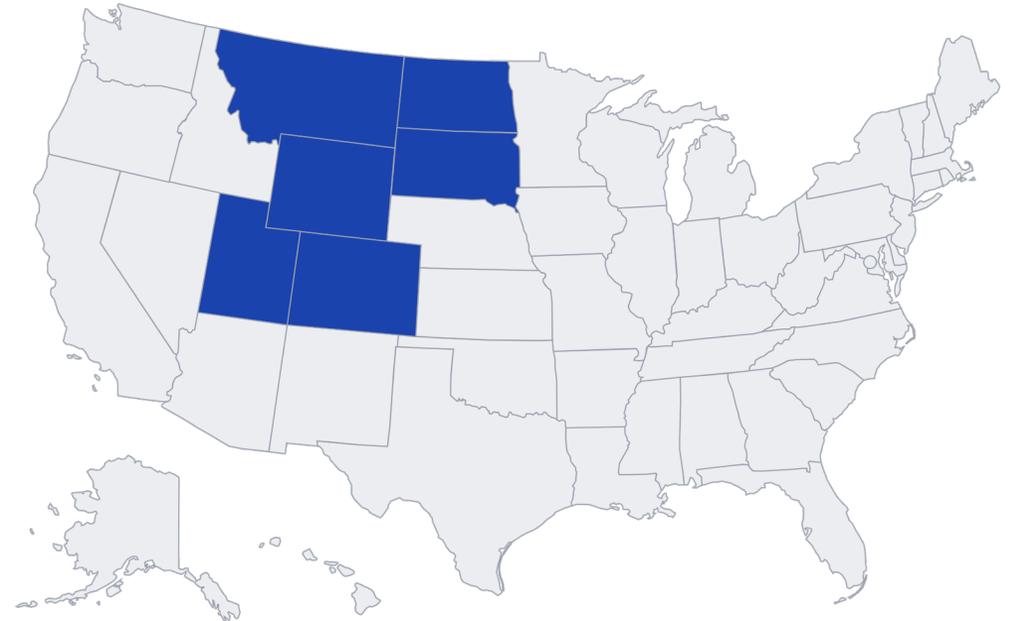


ROCKY MOUNTAIN
A D A C E N T E R

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Creating Accessible Digital Documents

Emily Shuman, Rocky Mountain ADA Center



Disclaimer

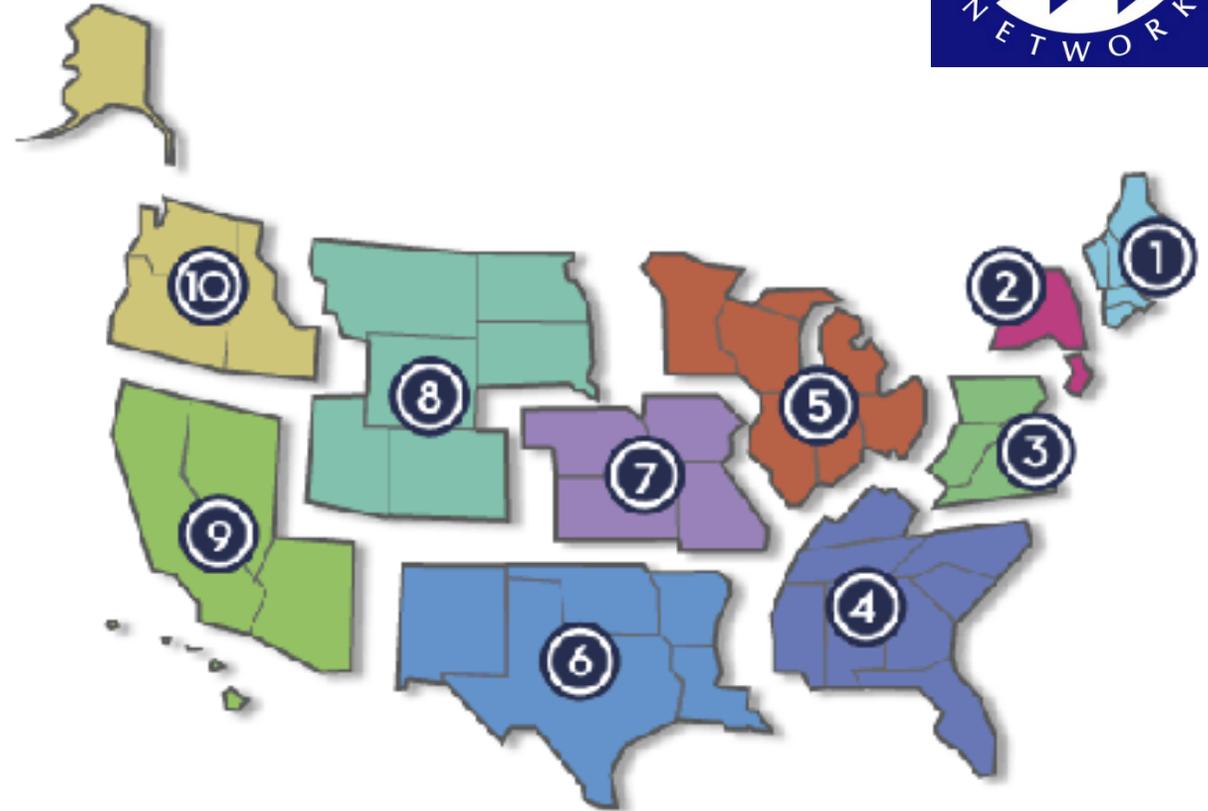
Information, materials, and/or technical assistance are intended solely as informal guidance, and are neither a determination of your legal rights or responsibilities under the ADA, nor binding on any agency with enforcement responsibility under the ADA.

The Rocky Mountain ADA Center, operated by Meeting the Challenge, Inc., a CP&Y Company, is funded under a grant from the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR grant number 90DPAD0009-01-00) to provide technical assistance, training, and materials to Colorado, Utah, Montana, North Dakota, South Dakota, and Wyoming on the Americans with Disabilities Act.

Rocky Mountain ADA Center



- Technical Assistance
- Refer and Network
- Conduct Research
- Provide Training
- Publish & Share Materials
- Social Media



Learning Objectives



- Learn how people with disabilities use technology to access electronic documents.
- Understand how to use tools in MS Word and MS PowerPoint to make documents and presentations accessible.
- Learn how to check your work to make certain documents and presentation slides are accessible.

Assistive Technology



How do people with disabilities use technology to access documents and PowerPoints?

Blind / Low Vision / Visual Disability

- People with visual disabilities can include users that are blind, have low vision, or are color blind.
- In most cases, users who are blind use a screen reader to access electronic documents.
- A screen reader uses the structure of a document to present the text audibly to the user.



Screen Magnifier

A person with low vision may need to enlarge the content within the document to make it more legible to them.



Deaf / Hard of Hearing / Auditory Disability



- Rely on the use of captions and transcripts for all audio and multimedia content
- May not be native English-speakers, therefore plain language is a best practice

Plain Language

Plain Language

- Short, simple, and to the point
- Conversational
- Familiar language
- Actionable

EXAMPLES > BEFORE AND AFTER

Medicaid Eligibility

This example was created for training and is not official agency text.

✗ Before

Medicaid: Apply if you are aged (65 years old or older), blind, or disabled and have low income and few resources. Apply if you are terminally ill and want to receive hospice services. Apply if you are aged, blind, or disabled; live in a nursing home; and have low income and limited resources. Apply if you are aged, blind, or disabled and need nursing home care, but can stay at home with special community care services. Apply if you are eligible for Medicare and have low income and limited resources.

✓ After

You may apply for Medicaid if you are:

- Terminally ill and want hospice services
- Eligible for Medicare and have low income and limited resources
- 65 years old or older, blind, or disabled and have low income and few resources and:
 - Live in a nursing home
 - Need a nursing home care but can stay at home with special community care services

Physical / Mobility Disability

- Limited muscular control such as involuntary movements including tremors, lack of coordination, or paralysis.
- May have trouble maneuvering a mouse; must be able to navigate document with keyboard.
- May use mouth stick, eye-tracking device, or a sip and puff device in place of a traditional keyboard.



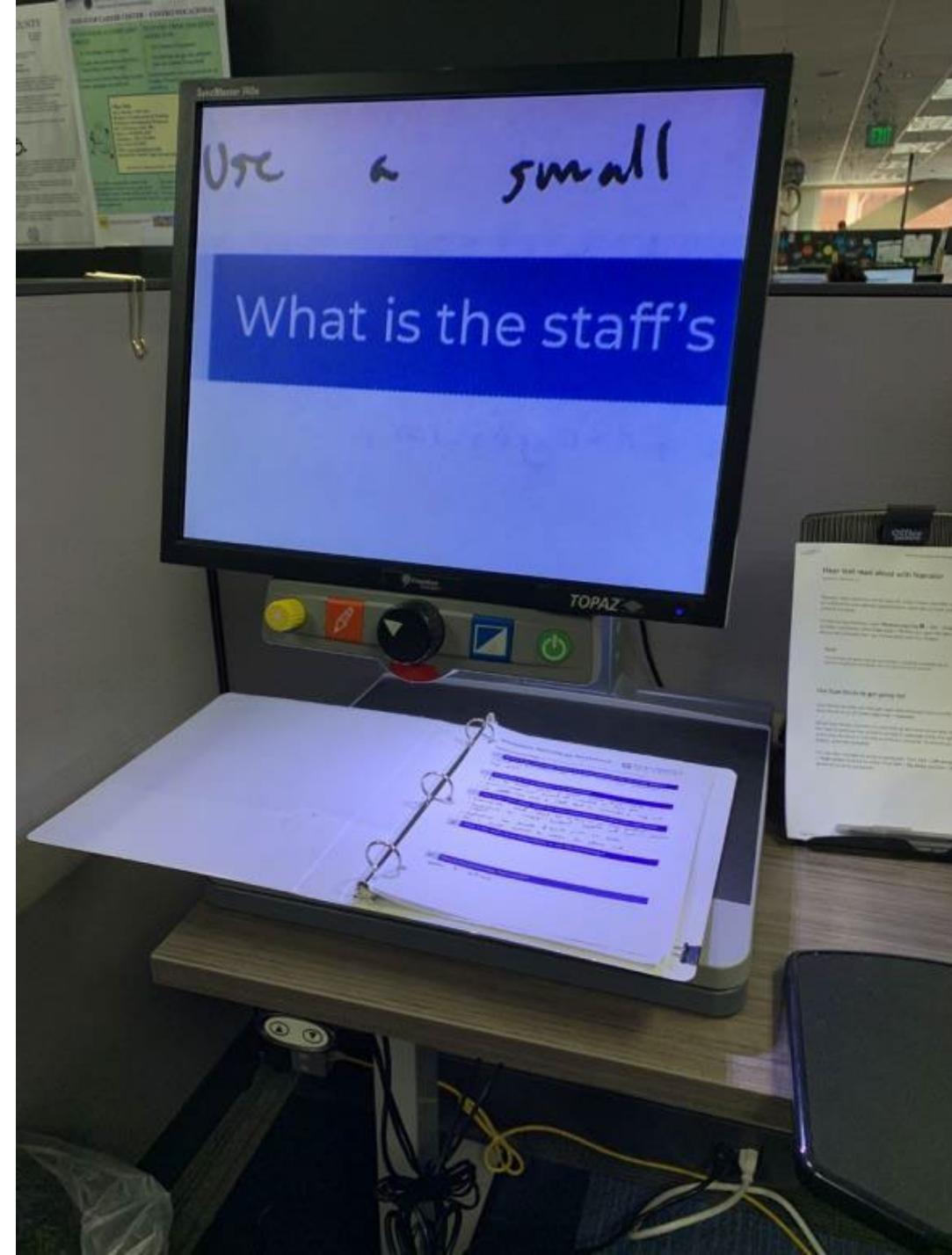
Cognitive / Learning / Neurological Disability

- One of the largest disability groups.
- Involves neurodiversity and neurological disorders, as well as behavioral and mental illness.
- Impacts how well people hear, move, see, speak, and understand information.
- Design content with plain language and structure in a logical and understandable order.



Assistive Technology Definition

- Assistive technology is any item, piece of equipment, software program, or product system that is used to increase, maintain, or improve the functional capabilities of persons with disabilities.
- Includes screen readers, screen magnification, high-contrast settings, software and hardware.



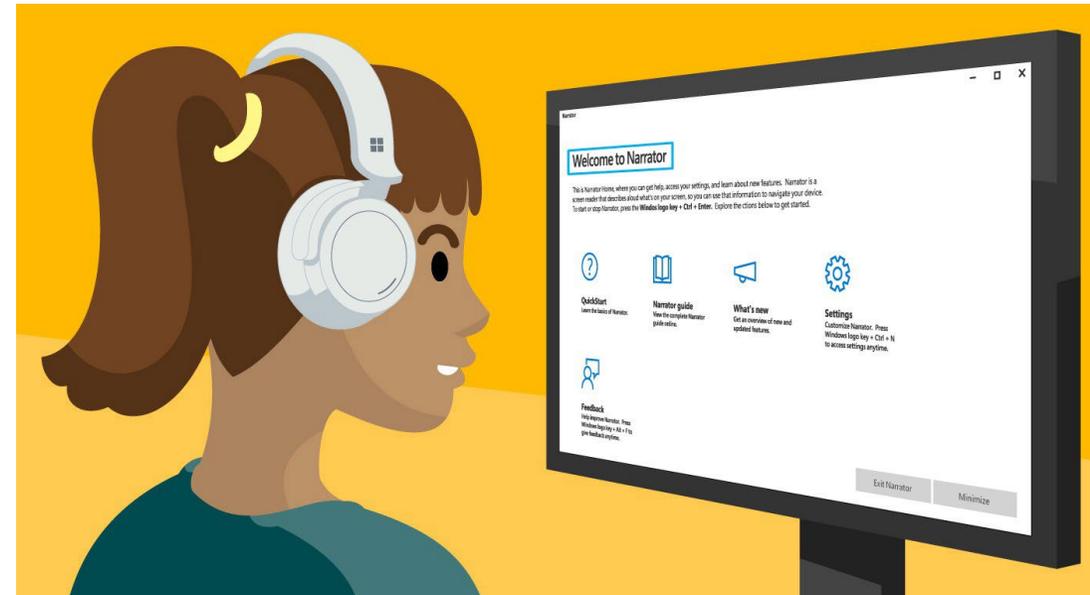
Assistive Technology Examples

- On-screen Keyboards
- Voice Recognition Software
- Screen Readers
- Screen Adjustment Programs



Screen Reader

- Allows users that are blind or have low vision to read the text that is displayed on the computer screen with a speech synthesizer or braille display.
- Interface between the computer's operating system, its applications, and the user.
- The user sends commands to instruct the speech synthesizer what to speak automatically when selected on the computer screen.



Refreshable Braille Display

- Electronically raises and lowers different combinations of pins in braille cells.
- Shows up to 80 characters from the screen and changes continuously.
- Complements the standard keyboard and screen reader.
- Primarily used by the deaf-blind.



Create an Accessible Document - Characteristics



What are the
characteristics of an
accessible MS Word
document?

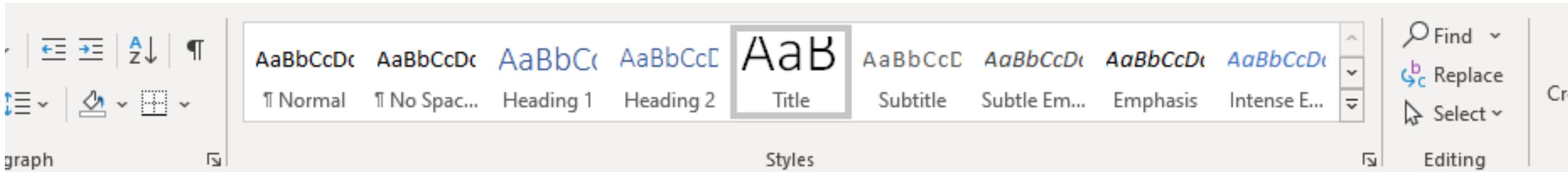
Creating Accessible Documents – File Name

- Save the document with a descriptive file name that helps identify the document or its purpose right away.
- Helps everyone locate, open, and switch between documents.



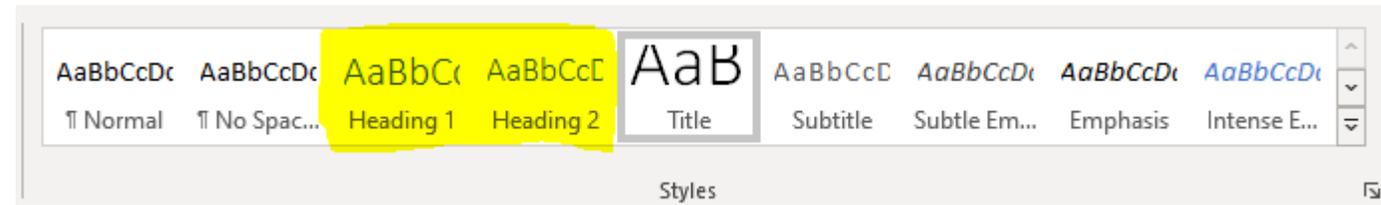
Creating Accessible Documents - Styles

- Use built-in styles.
- Assistive technology can infer meaning from the document structure and formatted characters in the style.



Creating Accessible Documents - Headings

- Headings organize content and make finding information easier.
- Assistive technology cannot recognize meaning if you just format the text.
- Heading styles create a structure that assistive technology can quickly access, and aid document navigation based on the heading levels.



Creating Accessible Documents - Font

- Font size should be at a minimum 11 point for normal print. 16 point is recommended.
- Font size should be at a minimum 14 point for large print. 18 point is recommended.
- A sans-serif or non-serif font is recommended because when the text is magnified, the serifs in the fonts do not smooth well and the text can look blocky.
- Non-serif fonts are Arial and Calibri. Serif fonts include Times New Roman and Century.
- Avoid using all capital letters.

serifs
Text



Serif Font

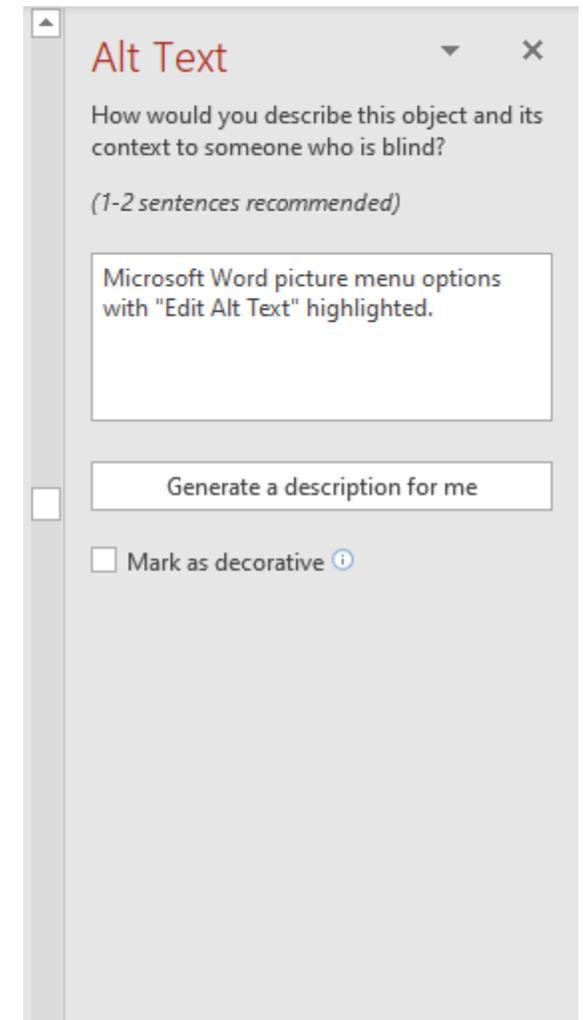
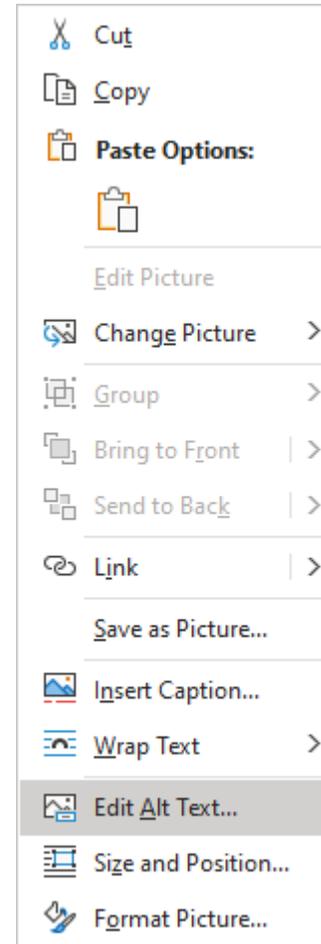
Text



Sans Serif Font

Creating Accessible Documents – Images

- Assistive technology cannot infer meaning from images.
- Alternative text must be added.
- Alt-text should be brief and clearly expressed.
- Microsoft Word will auto generate alt text; update for accuracy.
- Mark the image as decorative if the image should be looked over by assistive technology.



Alternative Text

- Alt text should be concise and meaningful.
- It should communicate what is important in the picture but does not need to be overly specific.



Too much: Belgian homemade waffles covered in blueberries and rainbow-colored sprinkles on pink plates with embroidered napkins and a cup of tea with milk and a teapot all laid on hexagon white tiles.

Just right: Appetizing breakfast of waffles with toppings and tea.

Alt Text - Context

Accessibility Related

Parking lot outside a shopping center.

Cart return is in the access aisle between two accessible parking spaces.

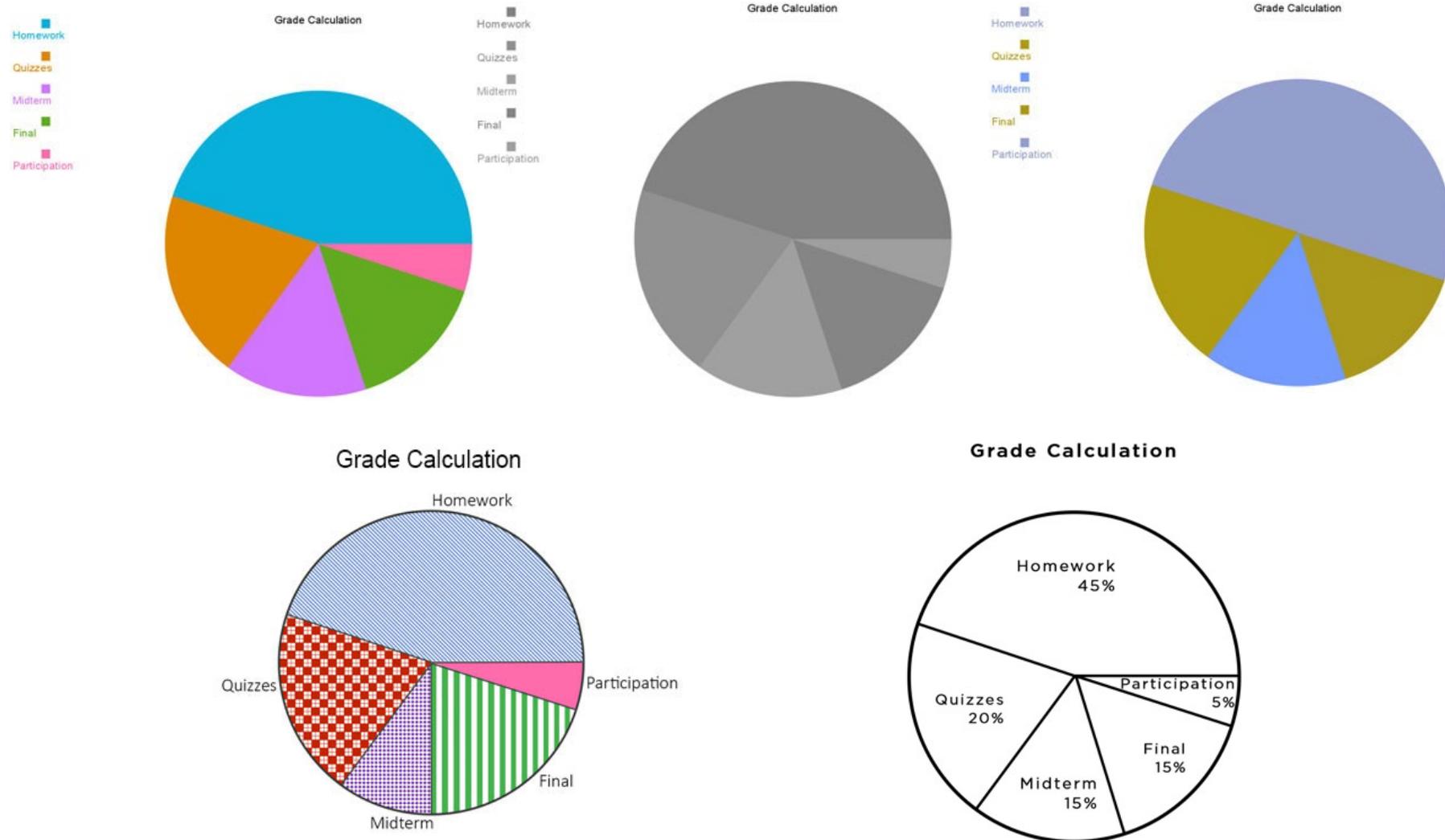
General Description

Parking lot of a shopping center with cars and shopping cart return.



Creating Accessible Documents - Colors

- Color should not be the only means of conveying information.
- There should be sufficient contrast for text and background colors.



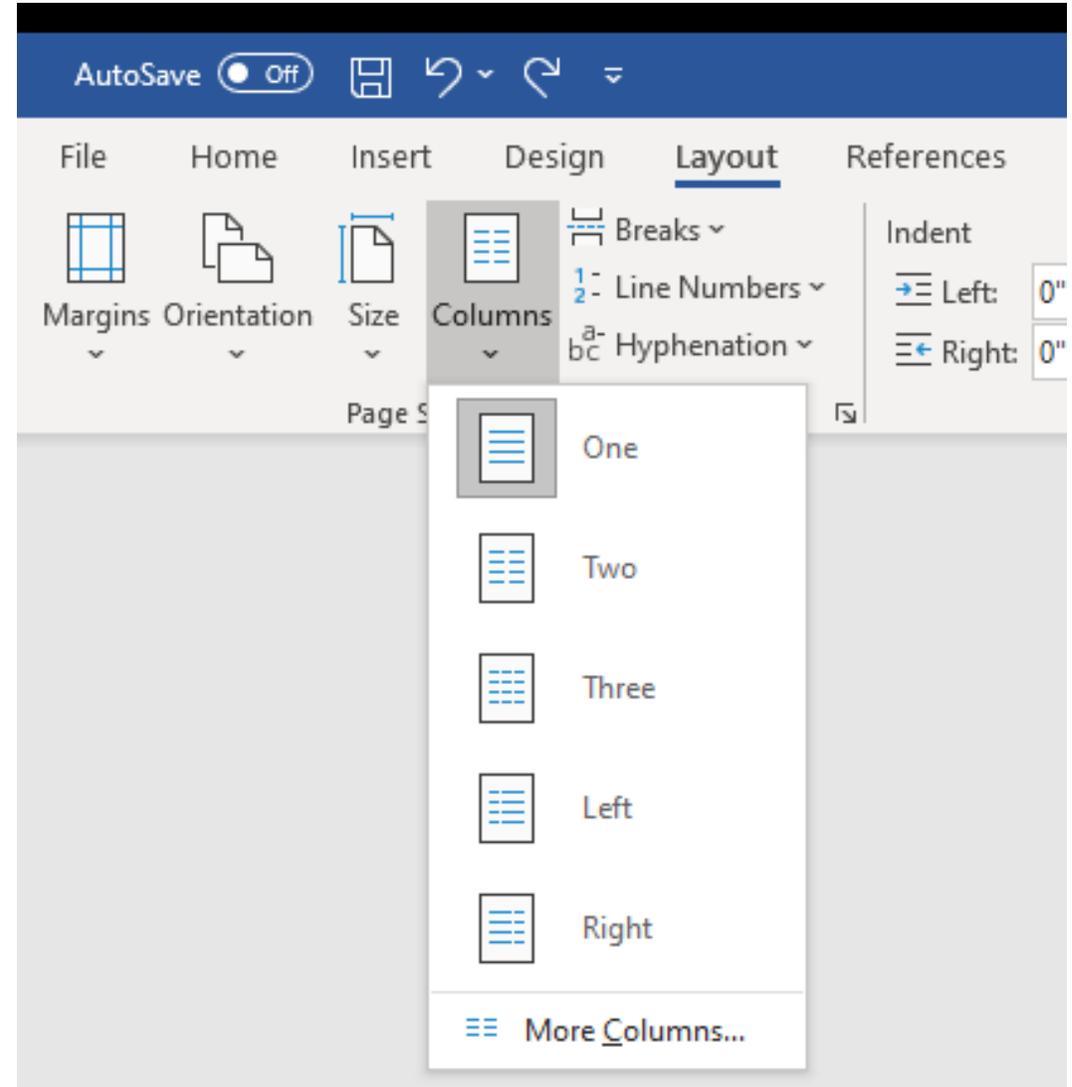
Creating Accessible Documents - Contrast



- Use high contrast.
- For text less than 18 point or 14 point bolded, there should be a contrast of 4.5:1 or more.
- For text larger than 18 point or 14 point bolded there should be a contrast of 3:1 or more.
- Avoid laying text over images.

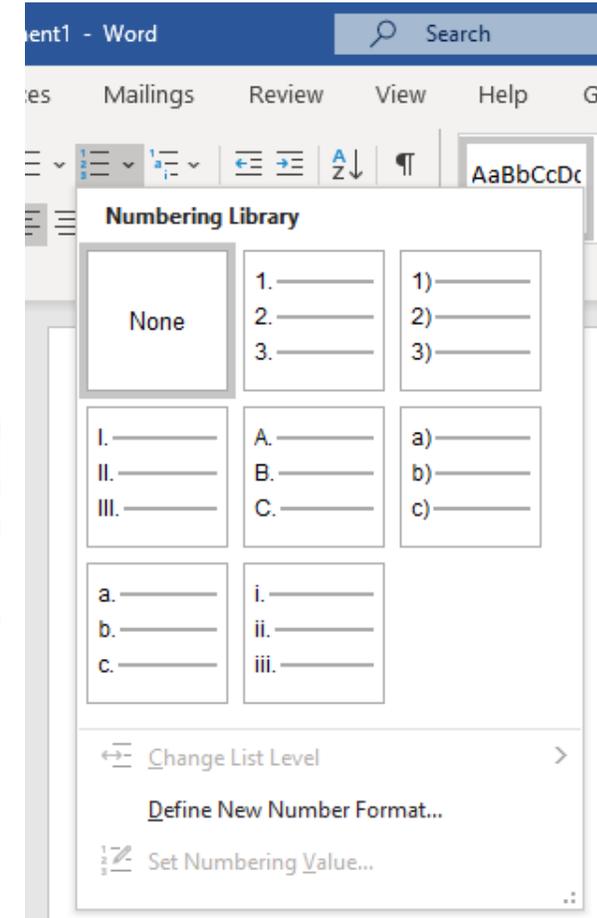
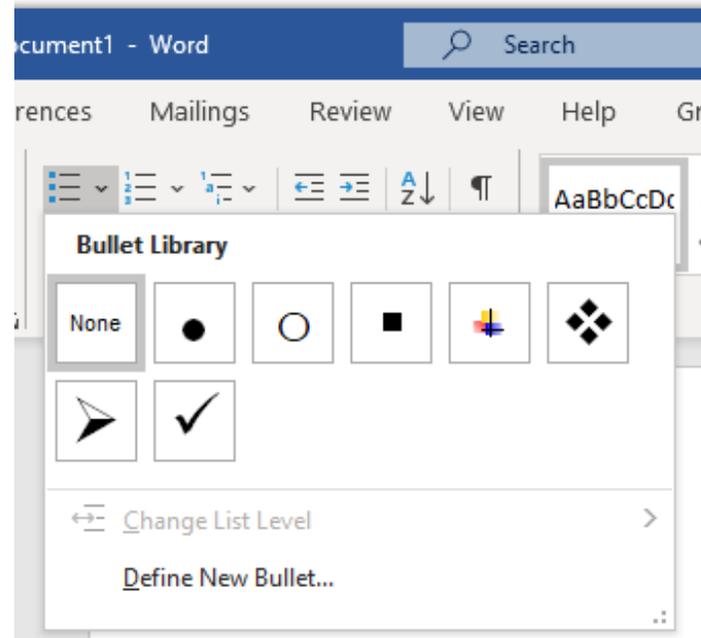
Creating Accessible Documents - Columns

- Screen readers and assistive technology cannot read information in the correct reading order when using tabs or spaces to separate content into columns.



Creating Accessible Documents - Lists

- Assistive technology cannot recognize meaning if you format lists.
- Use built-in list features.
- A bulleted list allows a user to navigate to each list item.
- A bulleted list will also be identified by a screen reader and tell the user how many items are in the list.



Creating Accessible Documents - Links

Hyperlinks must have meaningful names to determine the destination, function, or purpose.



There are several things to consider in [creating accessible link text](#).

Learn the [difference between accessible, usable, and universal design](#).

Questions? Request a consultation at eshuman@cpyi.com.



There are several things to consider in creating accessible link text. [Learn more](#).

[Click here](#) to learn the difference between accessible, usable, and universal design.

Questions? [Click here](#).

Creating Accessible Documents – Tables

- Tables cannot contain split cells, merged cells, or nested tables.
- Blank cells in a table can also be misleading.
- Visual formatting needs to be applied with table border control rather than blank rows or columns.
- Table summaries can be helpful in describing the purpose of a table.



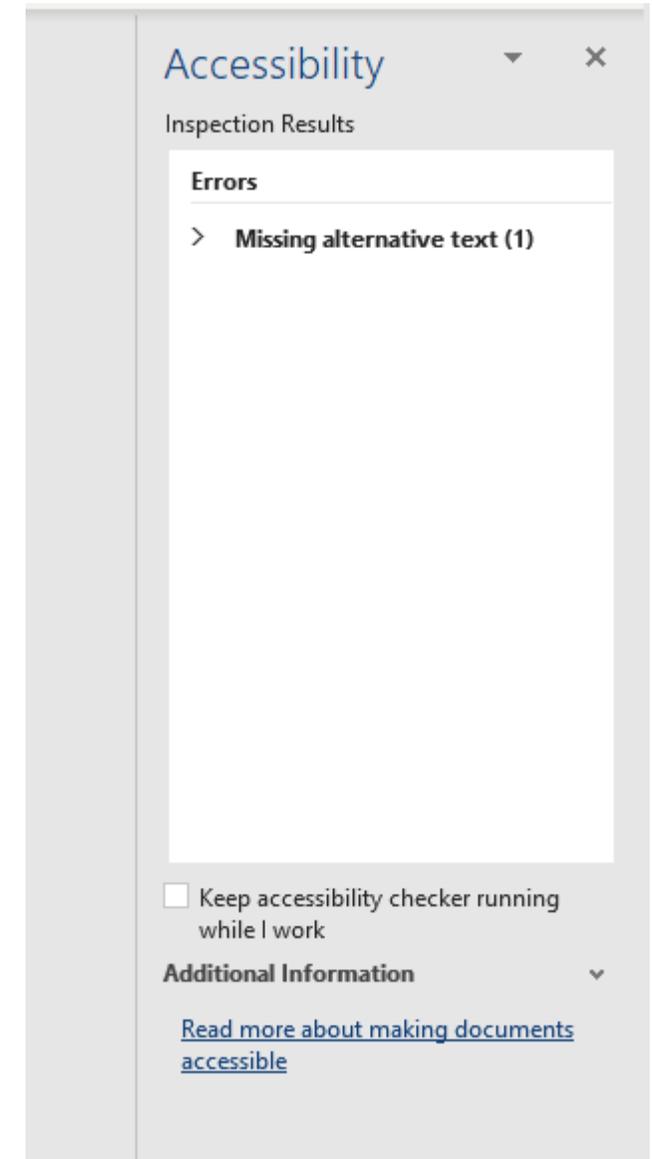
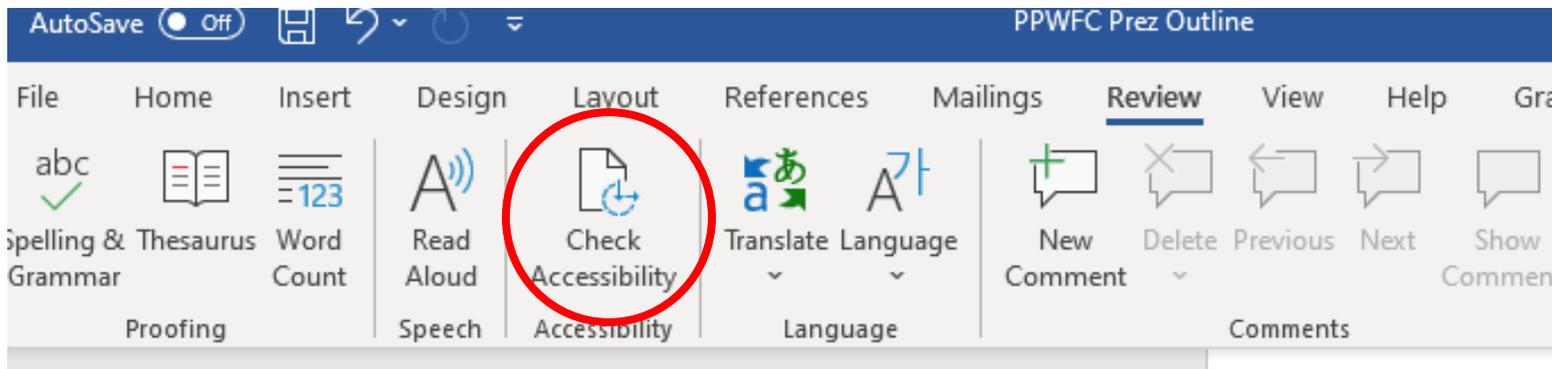
Create an Accessible Document - Review



How do I check the
accessibility of my
document?

Documents – Check Accessibility

- Review for accessibility before we convert to a PDF.
- Check for errors in the inspection results.
- If there are any errors, follow the recommended actions.



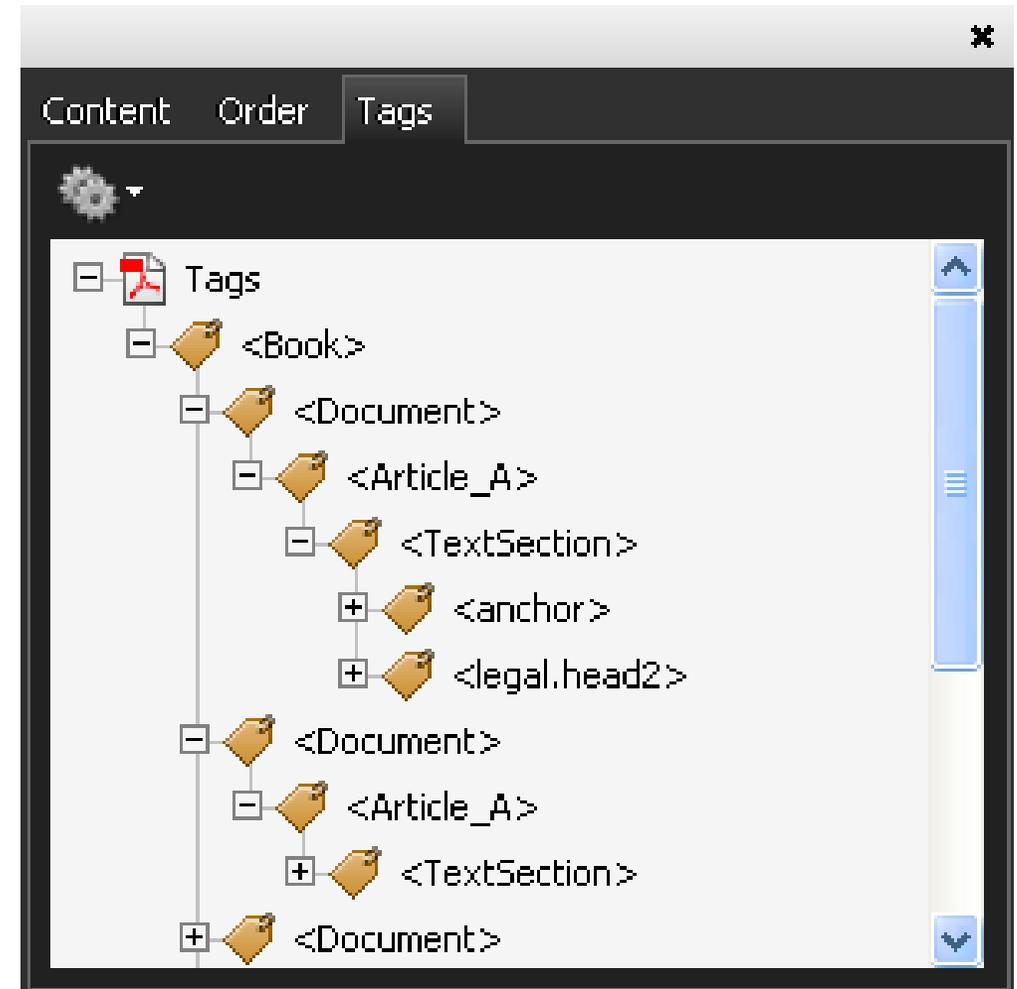
PDF Accessibility



- Not all PDFs are the same.
- Enable users to exchange and view electronic documents easily and reliably, independently of the environment in which they were created.

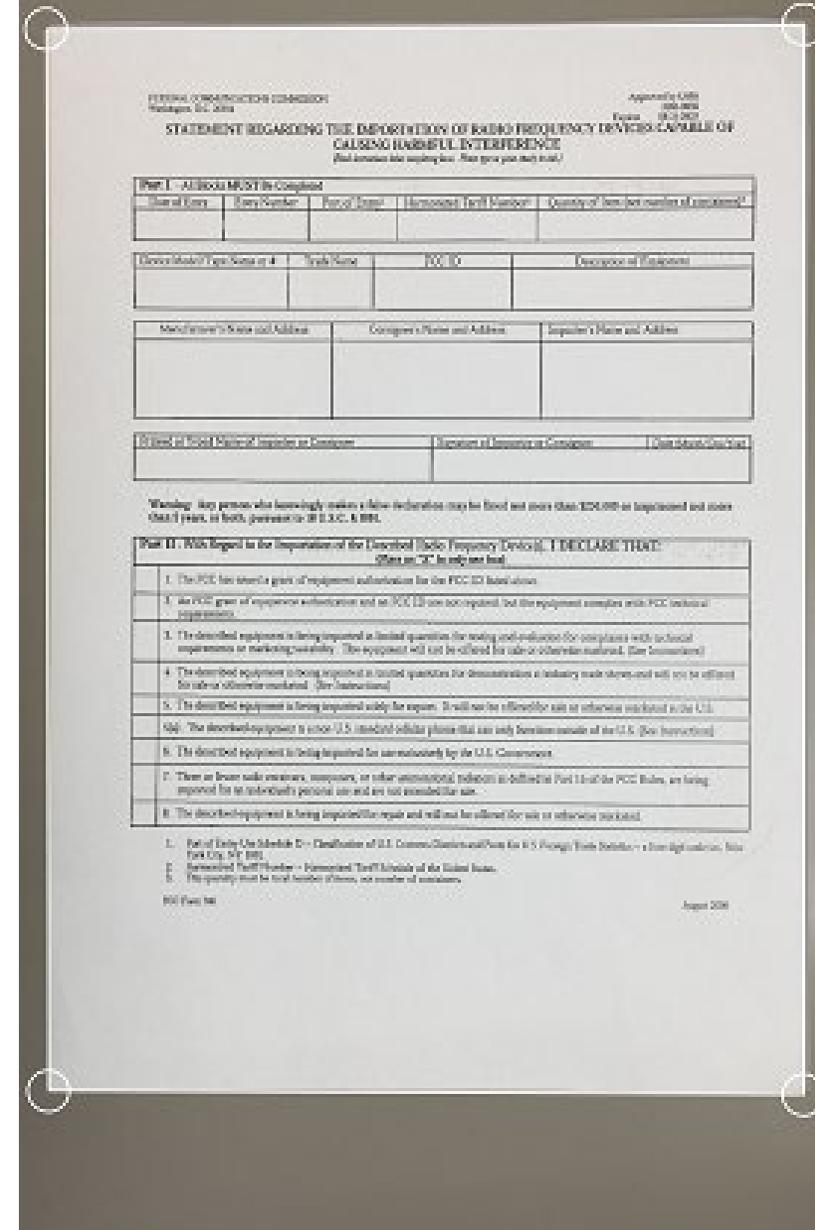
PDF Accessibility - Tags

- PDFs use document structure tags for screen reader readability.
- Structure tags identify headings, paragraphs, sections, tables, and other page elements.



PDF Accessibility - Scanning

- Scanning a document to a PDF makes it inaccessible.
- Scanned images of text must be manually converted to searchable text using optical character recognition (OCR) before accessibility features will work.



Retake

Keep Scan

PDF Accessibility - Security

- Restricting PDFs from printing, copying, extracting, adding comments, or editing text can make them inaccessible.
- Ensure security settings do not interfere with a screen reader's ability to convert the on-screen text to speech.

Password Security - Settings

Document Open

Require a password to open the document

Document Open Password: [] [] [] [] [] Not Rated

i No password will be required to open this document.

Permissions

Restrict editing and printing of the document. A password will be required in order to change these permission settings.

Printing Allowed: None

Changes Allowed: None

Enable copying of text, images, and other content

Enable text access for screen reader devices for the visually impaired

Change Permissions Password: [] [] [] [] [] Not Rated

Options

Compatibility: Acrobat 7.0 and later Encryption Level: 128-bit AES

Encrypt all document contents

Encrypt all document contents except metadata (Acrobat 6 and later compatible)

Encrypt only file attachments (Acrobat 7 and later compatible)

i All contents of the document will be encrypted and search engines will not be able to access the document's metadata.

Help OK Cancel

File Home Insert Page Layout References Mailings Review View MathType Add-Ins Accessibility Nuance OCR Nuance PDF Acrobat

Cut Copy Paste Format Painter Clipboard

Arial 14 Aa Font Paragraph Styles

Normal No Spacing Heading 1 Heading 2 Heading 3 Heading 4 Title Subtitle Subtle Emphasis Intense Emphasis Strong Quote Intense Quotation Subtle Reference Change Styles Editing

Berwickshire, from James Denham, *John Duns Scotus*; *Wikipedia*; 16 Oct. 2008; Web; 13 Nov. 2013.

John Duns, also known as Duns Scotus, lived between 1266 and November 8 1308. He has a high reputation within the Catholic Church for crafting the argument for the Immaculate Conception of Mary. As a philosopher, he is also known for his idea of the "univocity of being."

One of the key difference between Scotus' thought and Aquinas was his idea that we can attribute predicates to God and men in the same sense. Aquinas, on the other hand, maintained that when people use predicates for God, they must of necessity be making an analogy.

William of Ockham



Fig. 4. William of Ockham, from stained glass window (2007) at a church in Surrey, from *Moscarlop*, *William of Ockham*; *Wikipedia*; 18 Dec. 2008; Web; 13 Nov. 2013.

William of Ockham was an English philosopher who lived during the years 1287-1347. His work inspired the school of nominalism, according to which there are no universal essences but simply names (*nomines*) of concepts that exist in the mind only. The method of investigating reality is commonly referred to as Ockham's Razor.

In the realm of political thought, Ockham was a strong advocate for a division between church and state authority.

List of Major Medieval Philosophers

Philosopher	Date	Contributions
Anselm of Canterbury	1033-1109	The "Ontological Argument". God is that

		than which nothing greater can be thought.
Peter Abelard	1079-1142	Universals do not exist, forerunner of nominalist school of philosophers
Averroes	1126-1198	Wrote important commentaries on Aristotle. View of mind was

Review of Medieval Period

- Peter Abelard dialectic on the relationship between universals and particulars sparked great debate among philosophers.
- Anselm of Canterbury developed a very influential argument for the existence of God known as the "Ontological Argument".
- Thomas Aquinas synthesizes Aristotelian thought with Christianity in his massive work, the *Summa Theologiae*.
- William of Ockham rejects the commonly held realist notion of universals, which leads to school of nominalism.

Links for More Information:

- [Encyclopedia of Philosophy \(Stanford University\)](#)
- [Wikipedia Page on Medieval Philosophy](#)
- [Encyclopedia of Philosophy \(Routledge Press\)](#)

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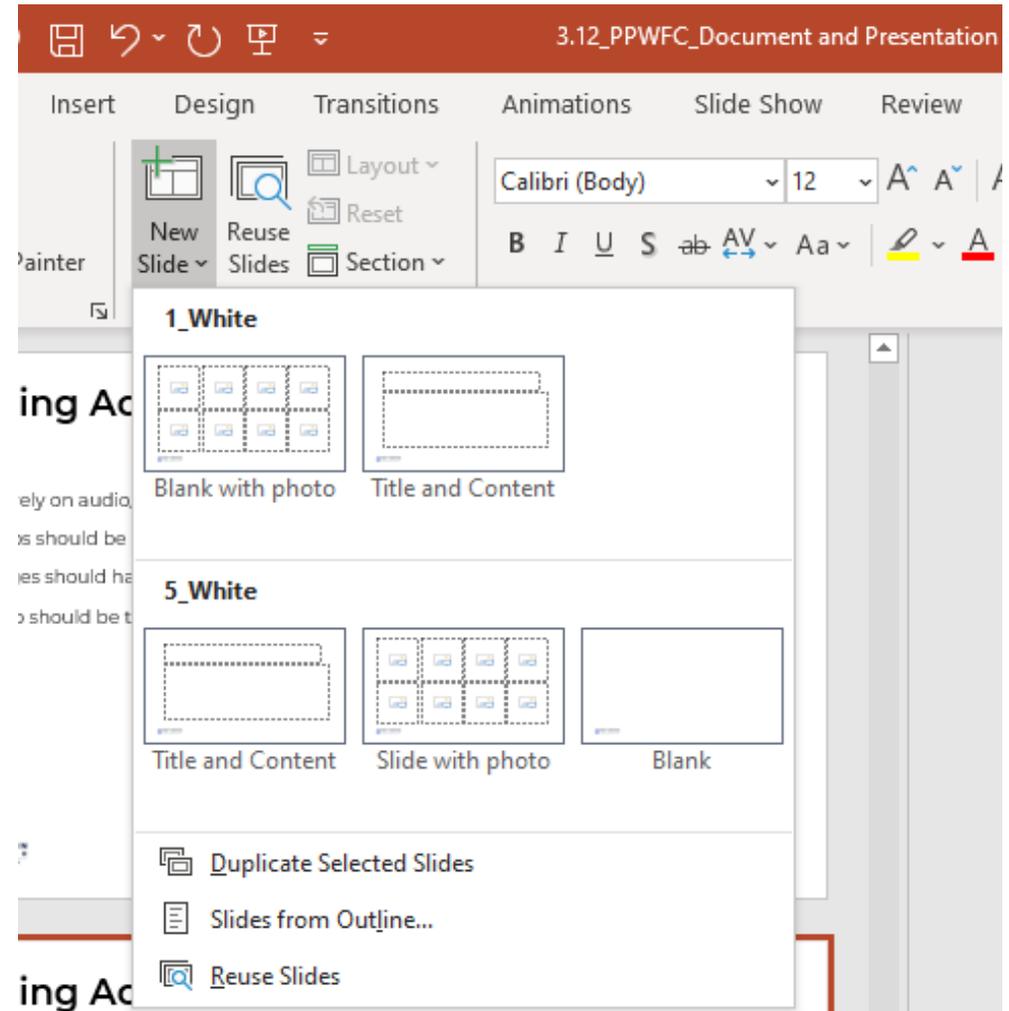
Create an Accessible PowerPoint - Characteristics



What are the
characteristics of an
accessible PowerPoint?

Creating Accessible PowerPoints - Layouts

- Use built-in slide layouts.
- Ensures correct structure and reading order.



Creating Accessible PowerPoints - Titles

- Each slide should have a unique title.
- People with disabilities use slide titles to navigate the presentation.

1 Giving an Accessible Presentation

Emily Shuman, Rocky Mountain ADA Center

2 Disclaimer

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3 Rocky Mountain ADA Center

- Technical Assistance
- Refer and Network
- Conduct Research
- Provide Training
- Publish & Share Materials
- Social Media

4 Accessibility Consulting

- Self-Evaluation and Transition Plans
- Facility Audits
- Architectural Plan Review
- Policy & Procedure Review
- Public Right-of-Way Review
- Website Accessibility Audits
- ADA Lawsuit Audits
- & More

5 Learning Objectives

- Prevalence of disability in the United States and why access matters.
- Understand how people with disabilities use technology.
- Learn how to make an accessible PowerPoint presentation.

Creating Accessible PowerPoints - Design

- Use high contrast.
- San serif font that is 18pt or larger.
- Avoid using all capitals.
- Avoid laying text over images.
- Keep slides brief and to the point.



serifs
Text

Serif Font

Text

Sans Serif Font

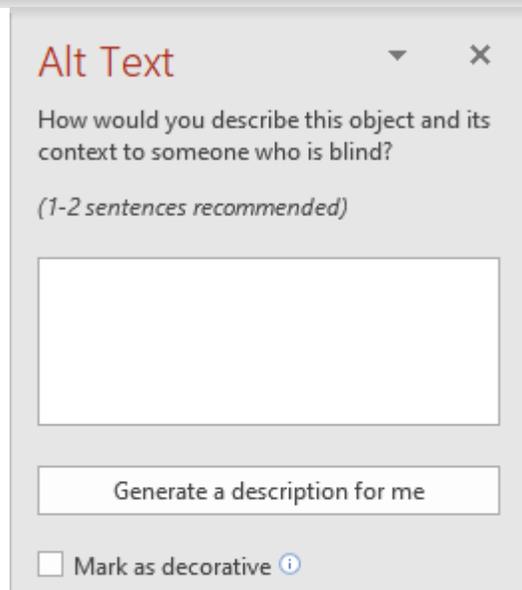
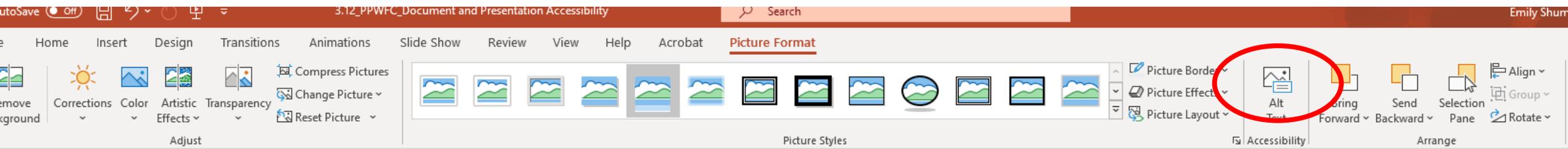
Creating Accessible PowerPoints - Color

- Don't use color as the only way to convey information.
- Avoid complex or automatic transitions.
- Keep slides simple.



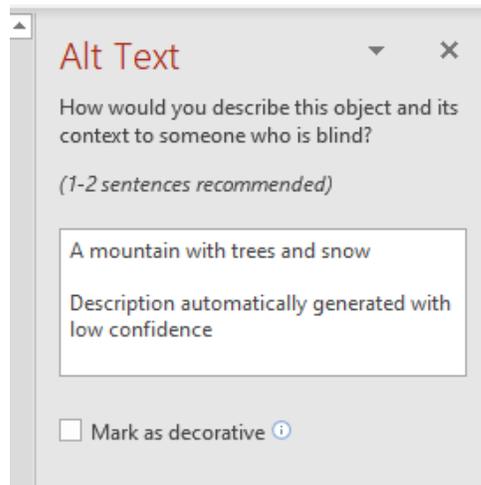
Creating Accessible PowerPoints - Visuals

- Do not rely on audio/visual elements.
- All videos should be captioned.
- All images should have alt-text.
- All audio should be transcribed.



Creating Accessible PowerPoint – Alt Text

- All visuals should have a text alternative.
- Avoid using the “Generate a description for me” button.



Creating Accessible PowerPoints – Reading Order

- Added content will be read by a screen reader in the order it is added to a slide.
- Use Check Accessibility to ensure proper reading order.

The screenshot displays the Microsoft PowerPoint interface. The 'Review' tab is active, and the 'Check Accessibility' button is circled in red. A dropdown menu is open, showing options: 'Check Accessibility', 'Alt Text', 'Reading Order Pane', and 'Options: Ease of Access'. A tooltip for 'Display the Reading Order Pane' is visible, stating: 'Adjust the order that your objects will be read in to improve accessibility.' On the right side, the 'Reading Order' pane is also circled in red, showing a list of objects to be read in order: 1. Title: Creating Accessible Pow... and 2. Text Placeholder: Added conte... The main slide content is partially visible, showing the title 'Creating Accessible PowerPoints – Reading Order' and the start of a bullet point: '• Added content will be read by a'.

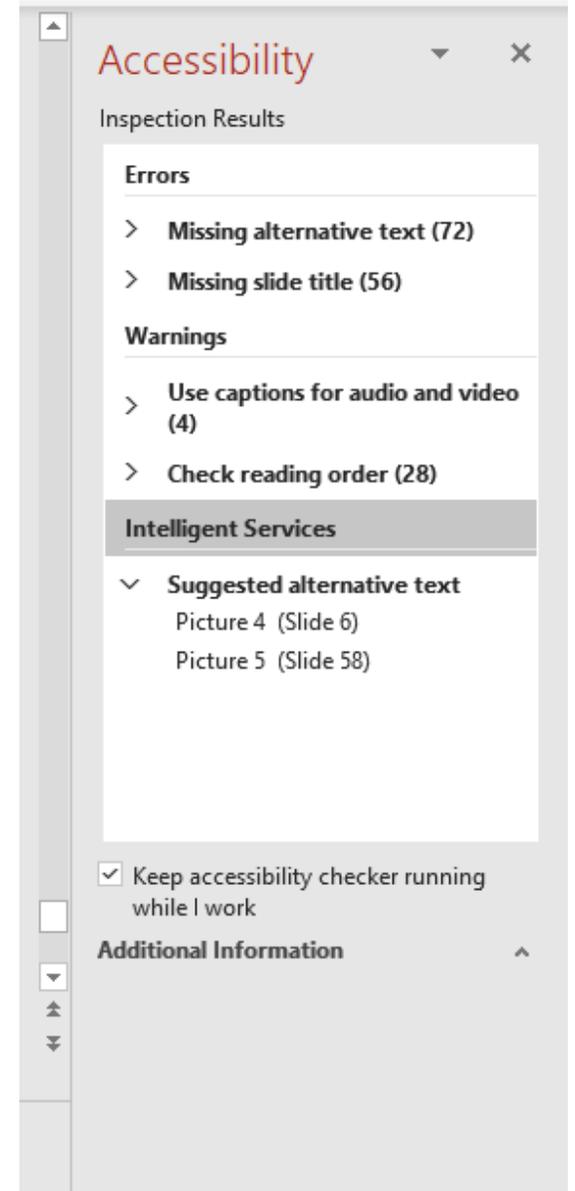
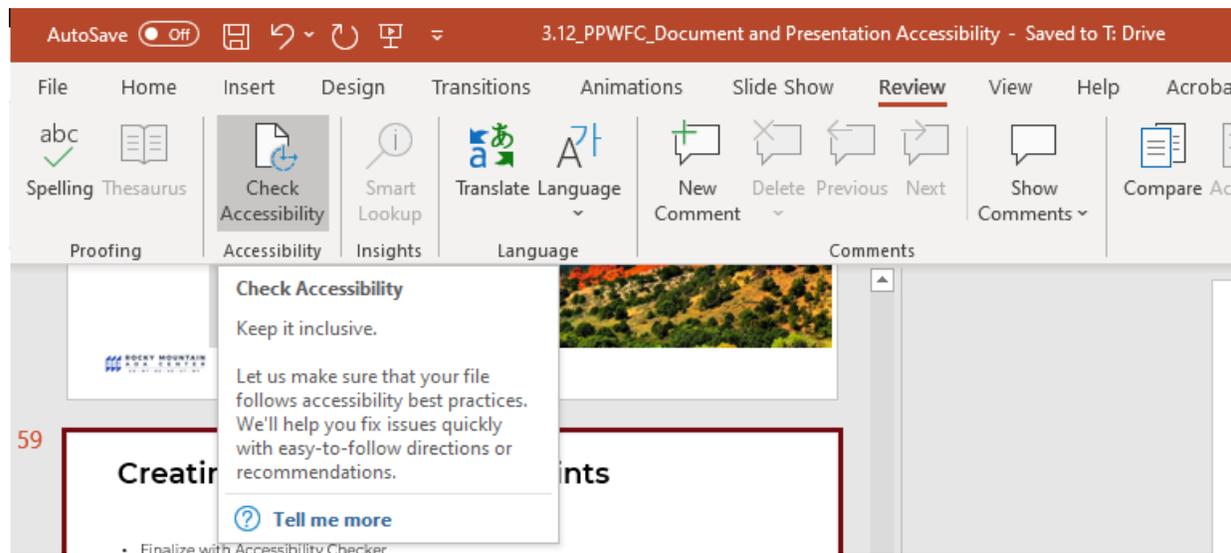
Create an Accessible PowerPoint - Review



How do I check the
accessibility of my
PowerPoint?

PowerPoint – Check Accessibility

- Finalize with Accessibility Checker.
- Make sure each slide has a title.
- Review errors, warnings, and tips.



Questions?

Contact Us. We're here to help.

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✉ EShuman@cpyi.com

📱 1-800-949-4232

🕒 9:00 – 4:00 M-F

