

FACULTY RESOURCE GUIDE

This accessibility guide is certainly not fully inclusive of all means/methods to make course materials fully accessible to all students with a disability. However, the points listed below will ensure that most of the materials used during lectures and/or posted to Blackboard, will fit the needs of most students with either a visual or hearing disability. There are also common accessibility issues that the Office of Access & Accommodation Services (A&AS) has been presented with. If any user of this guide finds other means of making materials accessible, or would like to contribute to this guide, please feel free to contact [Deanna Harris](#) in the our office. Also, if any questions arise or you need any materials/content reviewed, please do not hesitate to contact our office. It is my hope that this guide will be dynamic in nature and constantly be enhanced and revised as software changes and different means of providing accessible content become available.

Students that are blind or have other visual disabilities use screen-readers to interact with software, webpages, and electronic documents. Microsoft's Narrator and Apple's VoiceOver are built into the operating system. Commercially available screen-readers for Windows include, but certainly not inclusive, are: JAWS, Kurzweil 3000, ZoomText, and NVDA (opensource/free). Apps for iDevices and Android such as VoiceDream, GoodReader, and vBookz, are also used to read PDFs and other electronic documents. Use is generally dictated by student preference but JAWS, VoiceOver, and NVDA are what A&AS uses to analyze software accessibility for VPAT testing. Software, webpages, and electronic documents are gauged accessible by being compatible with any of these screen-readers. Some variances can occur, but A&AS will work with faculty and the student to ensure accessibility. Even students that do not have a visual impairment often take advantage of screen-readers to assist with comprehension.

Students that have hearing impairments need access to text-based information. This can be accomplished by ensuring that all video material has either captioning or transcripts available for distribution. A&AS can assist with open-captioning of video content, which will be covered in this guide, as well as contract with CART providers for class lectures or CVN courses. Our office can also provide additional assistive listening devices as needed. I know it is not your responsibility as educators to make sure that a student has all the necessary assistive technologies to aid them with their learning experience, that is why our office is needed, but we can work together to provide content and materials that are accessible to those technologies.

Thank you,

Deanna Harris

Office of Access & Accommodation Services

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Making PowerPoints Accessible- updated December 8, 2015

***Note: PowerPoint is only accessible by screen-readers via Windows. As of this writing, I was able to obtain a copy of Office 2016 for the Mac OS that did seem to integrate VoiceOver support; text within the PowerPoint was read. However, none of the alternate tag descriptions for images are read, the Accessibility Checker feature is missing, and other features still do not work. Only the text in the PowerPoints was readable by VoiceOver. While better than the previous version, Office 2016 for Mac still has some deficiencies. This accessibility guide will demonstrate techniques using the Windows operating system and PowerPoint 2013.

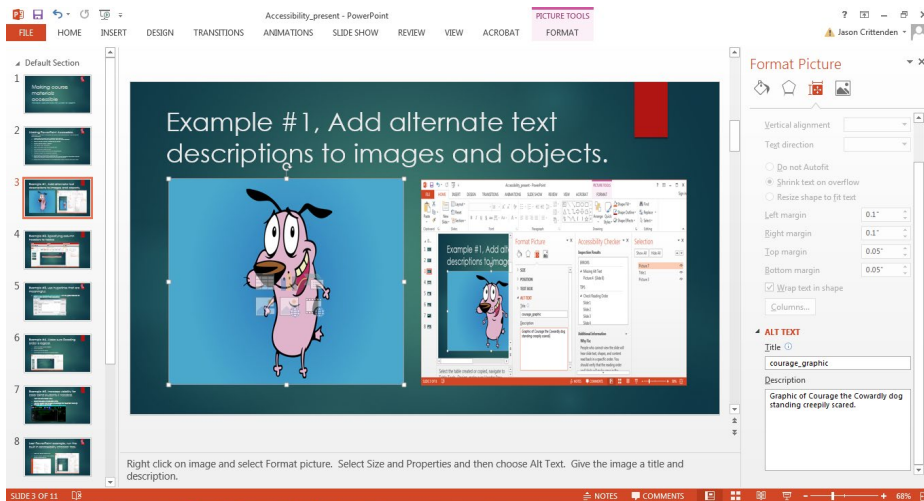
1. Use simple language.
2. Use punctuation, screen-readers use these as natural pauses.
3. Use simple slide transitions, avoid automatic slide transitions.
4. Use simple style screen graphics. Do not use flashing graphics which could stimulate seizures.
5. Always add alternate text to images and objects.
6. Specify column header information for tables.
7. Ensure that reading order is logical.
8. Use simple table structures for examples.
9. Make sure each slide has a unique title.
10. Use descriptive hyperlink text.
11. Always caption videos and include a transcript for embedded audio.
12. Ensure font size and contrast are sufficient if using a projector for presentation.
13. Use the built-in Accessibility Checker tool.

Examples-

Example #1, Adding alternate text descriptions to images and other embedded objects.

- A. Right click on picture or object and select Format Picture. The Format Picture window should open.
- B. Select Size and Properties, then choose ALT TEXT.
- C. Give the picture or object a Title and descriptive Description.

PowerPoint Format Picture view, displaying ALT Text entry fields for picture.

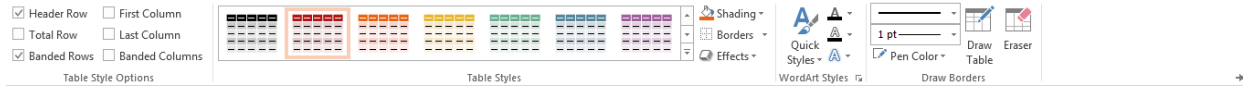


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Example #2, Specify column headers for tables. Having clear column headings helps with providing context and assists with navigating the table's contents. Alt text tags should also be used.

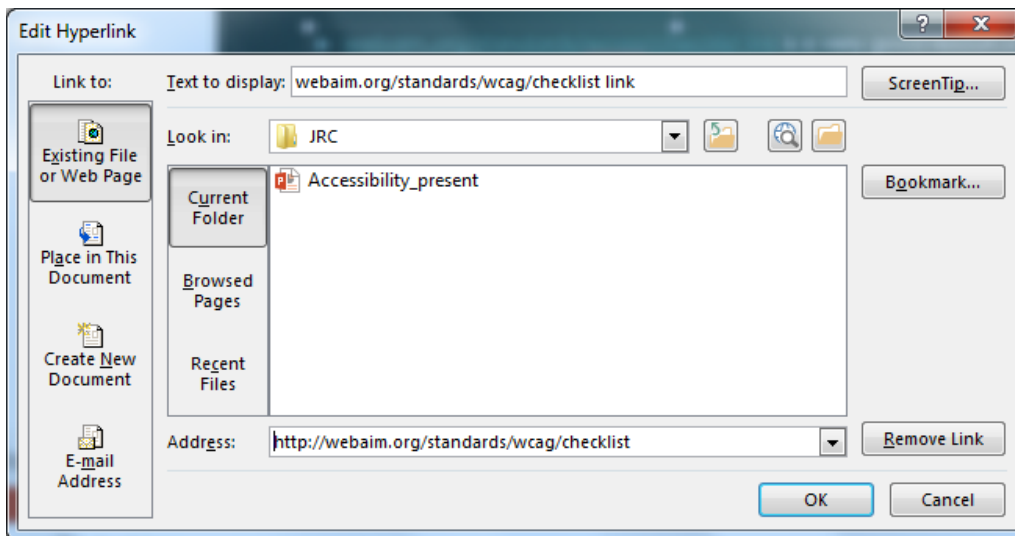
- A. Select the table created or copied
- B. Navigate to Table Tools and select Design
- C. Make sure Header Row is checked. Be sure to use include headers imported from other sources.

PowerPoint view of Table Design toolbar settings showing Header Row selected.



Example #3, use descriptive hyperlink text.

- A. Make sure Text to display either gives the URL or use other descriptions like 'Visit Access & Accommodation Services website', or 'Visit my Blog'. Do not use 'Click Here', 'Read More', etc. PowerPoint/Office Edit Hyperlink window view.

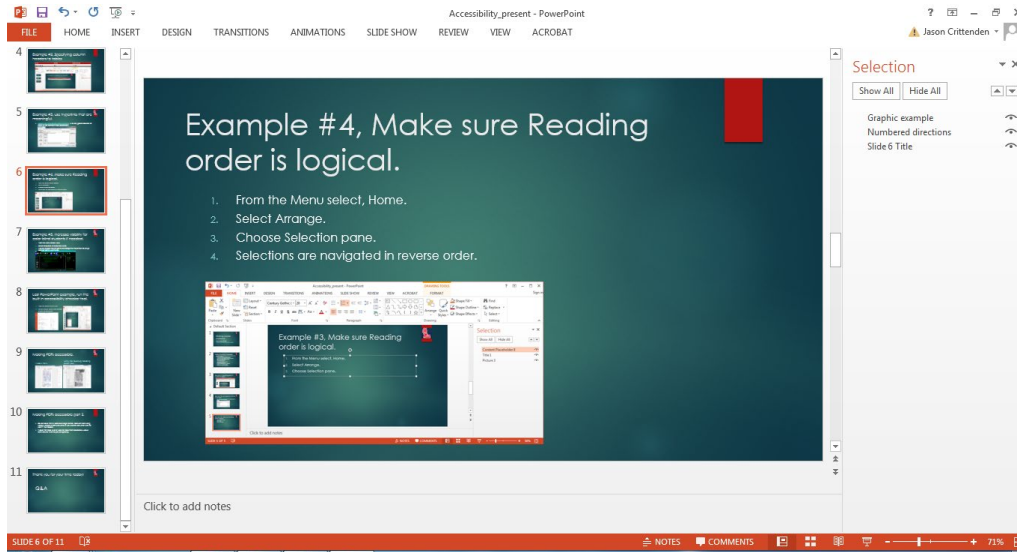


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Example #4, Make sure reading order of the slides are logical. Individuals who cannot view the slide will hear slide text. Shapes and content read back in a specific order.

- A. From the Menu select, Home.
- B. Select Arrange, then choose Selection pane.
- C. Selections are navigated from bottom to top.
- D. By double clicking on the name, the selections can be given unique identifiers.

PowerPoint view of Reading Order selection pane.



Example #5, Increasing visibility for color blind students or other visual disabilities.

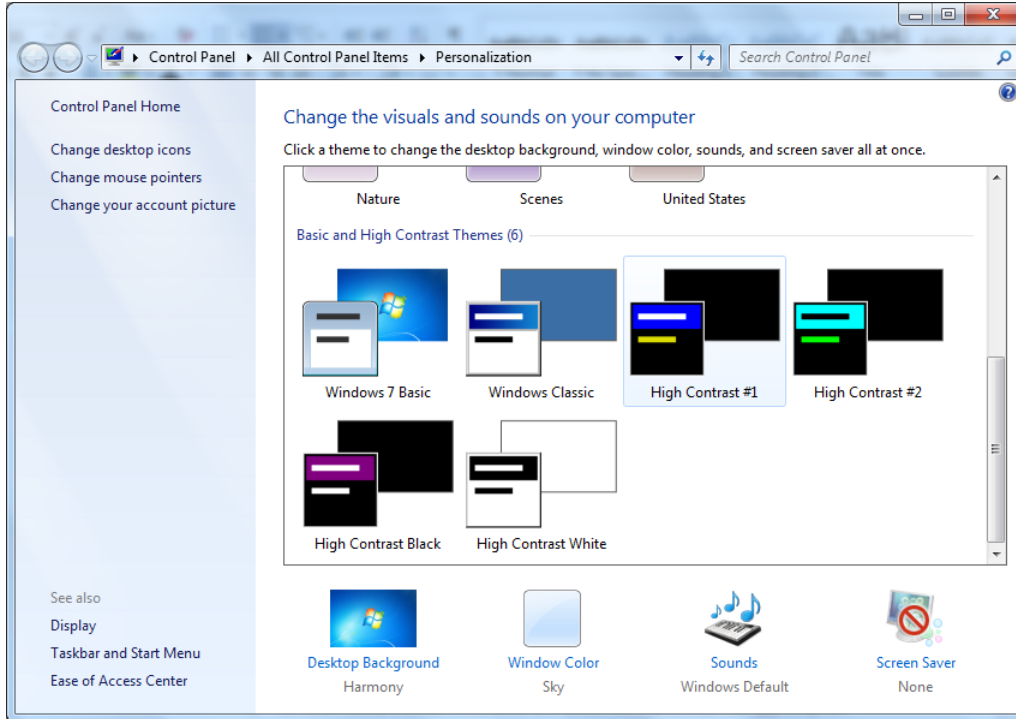
- A. From the Menu, select, View.
- B. Select Grayscale or Black and White.
- C. Further changes can be applied within these two viewing settings.
- D. The student will also be able to apply a high contrast setting via the operating systems high contrast settings.
 - a. For Windows, right click on the desktop.
 - b. Choose Personalize and scroll down to the desired high contrast setting and exit. (**Note, this setting will apply the high contrast setting to everything in the Windows environment).
 - c. To revert back, Choose Personalize and select the theme that was applied prior.

PowerPoint View toolbar for changing slide contrast settings.



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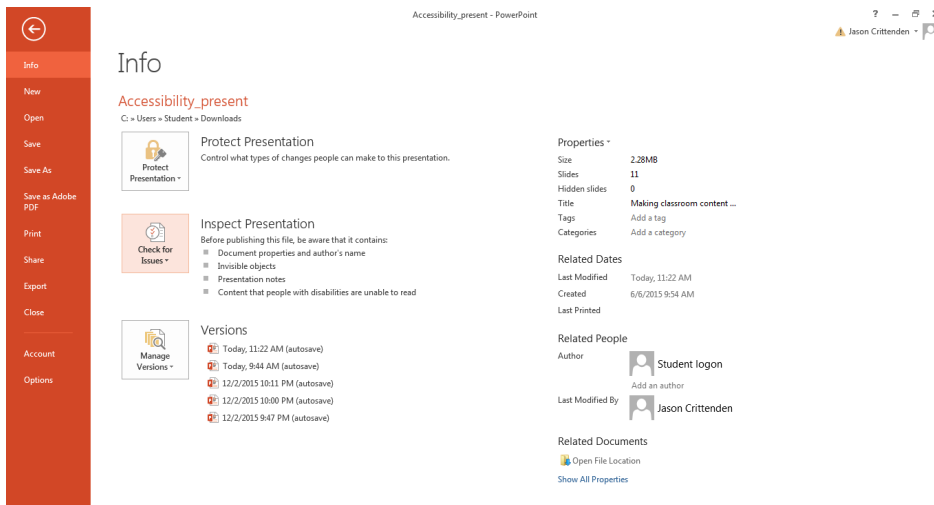
Location of High Contrast setting.



Example #6, Run the built-in Accessibility Checker tool.

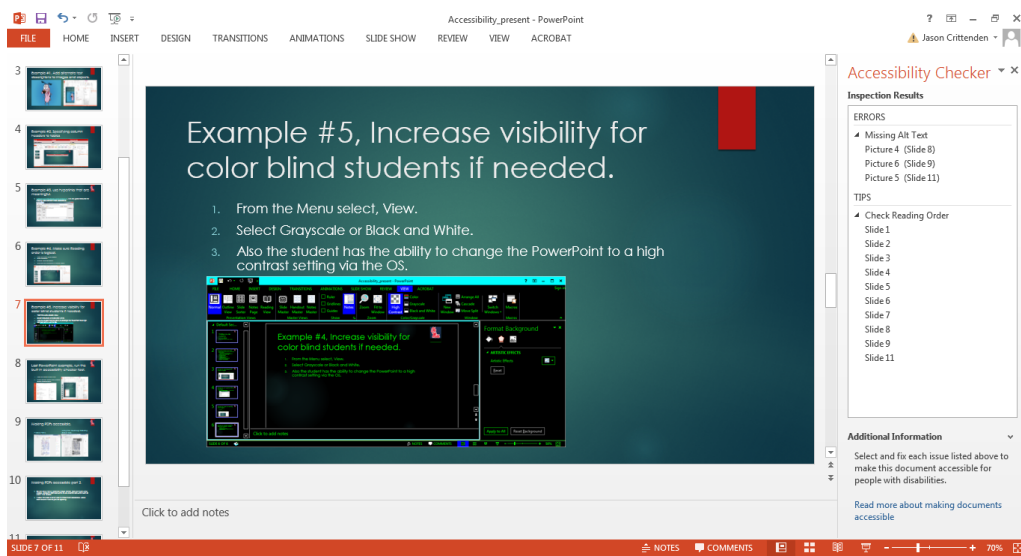
- From the menu, select File.
- Select the Check for Issues icon
- Click the icon and select Check Accessibility.
- A list of errors and tips should display for correction.

PowerPoint File Menu



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PowerPoint view of Accessibility Checker results.



Making PDFs Accessible- updated December 5, 2015

***Note: Do not leave PDFs in a scanned/printed only format! Example: scanning additional reading materials from a text and distributing them as a PDF via Blackboard or webpage. Ensure these PDFs are accessible via a screen-reader. Scanned PDFs need to be converted using OCR (Optical Character Recognition) software before they can be read by screen-readers. While Adobe Acrobat has a built-in converter, it has proven to be unreliable. A&AS uses ABBYY FineReader to convert texts and other image files with text. This service can certainly be extended to anyone who needs it through the Office of A&AS.

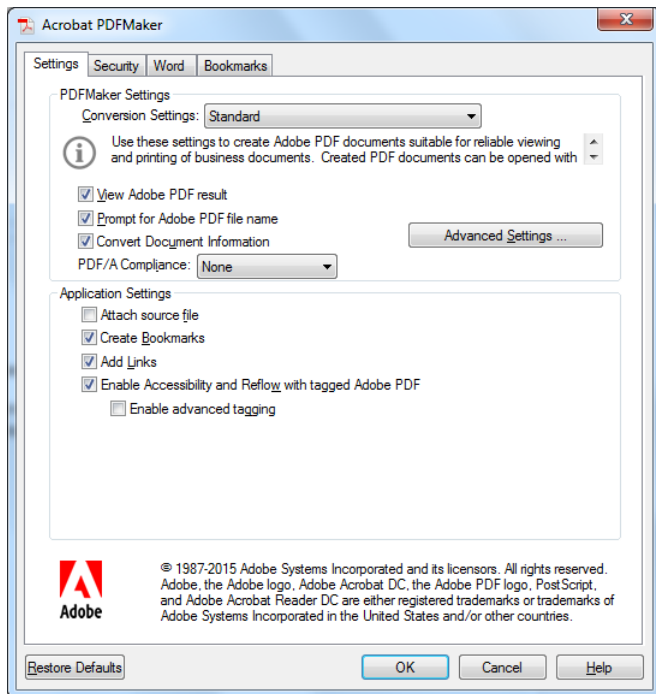
PDFs created in MS Word can be made accessible as long as the following requirements are met:

1. Providing Alt Text for images, proper headings, and appropriate link text.
2. Adobe Acrobat is installed which should install add-ins for MS Office.
3. The file must be exported in the correct manner. If a file is created by printing to PDF, it will not be correctly tagged.

To create tagged PDFs from MS Office products, a current copy of Adobe Acrobat is recommended. By installing Acrobat, the necessary plug-in will be installed to allow for tagging. This will also incorporate a toolbar ribbon for further customizations. Fillable PDF forms require extensive work to make accessible, but are certainly doable.

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Screen shot of Acrobat Preferences window in MS Office via ACROBAT toolbar ribbon.



To further enhance PDF accessibility, please review <http://webaim.org/techniques/acrobat/acrobat>

*** If at any time the above link is broken or changes, please contact the Office of A&AS.

Open-Captioning Videos- updated December 7, 2015

***Note: A&AS is currently using two Mac programs to open caption videos. [MovieCaptioner](#) by Syncrimedia, available for \$99.95 and [QuickTime Pro](#), available for \$29.99. They are available for Windows but at this time have not been tested for functionality. A&AS can caption video content with advanced notification. On average it will take four hours to add captioning to one hour of audio/video. This is drastically determinate upon quality of the audio.

Open-captioning is actually embedding the captioning into the video. A&AS has performed this service on campus. It does significantly add to the overall file size. If you would like any of your videos captioned, please contact our office for details.

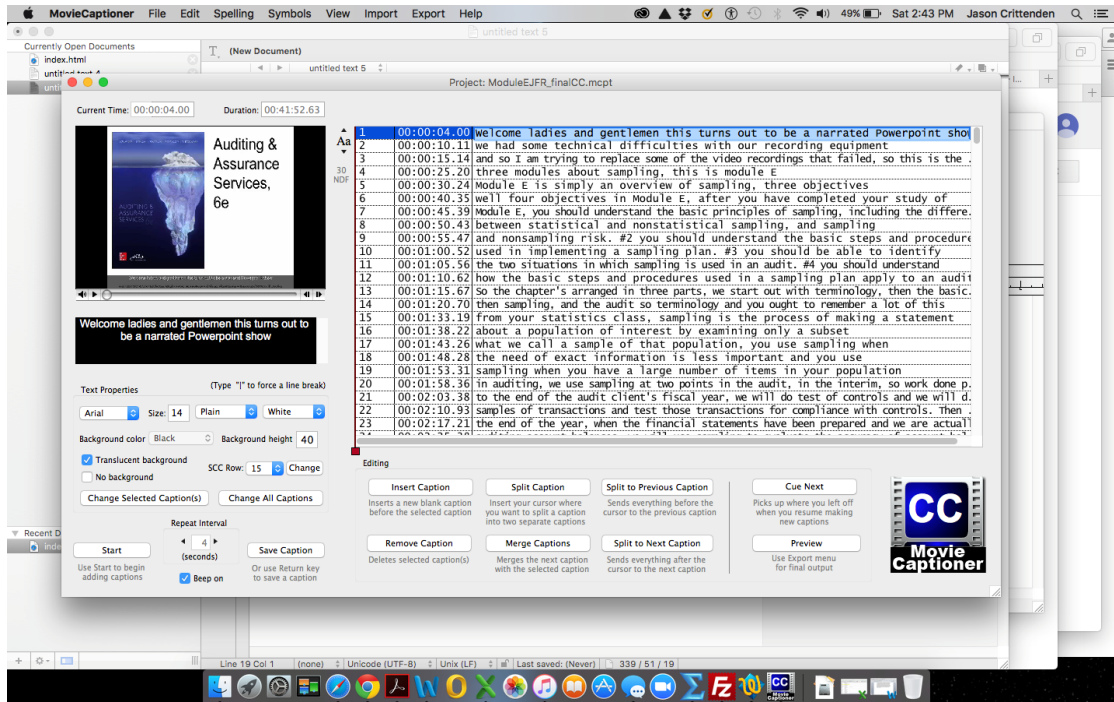
MovieCaptioner allows the user to load a video file and then replay the video in pre-determined loops to add captioning to a video. The video is played until all the captions are added to the time segments. The captions can be split, merged, etc., to accompany the video track. Once completed, the transcript or video can be exported to different formats. We normally export to embedded QuickTime (XML Track). ***Important detail*** Once the video is exported, it must be opened into QuickTime Pro to finalize the resolution, file type, settings, and merge the captions into the video. Without this final step of using QuickTime Pro, the captions will not be embedded into the final output video file. Final output quality is determined by the original input video file. The file can also be exported for web use. It saves the file for PC, Mac, and smart device usage.

For more information about captioning video content, Syncrimedia has a PDF guide available on their website, at http://www.synchrimedia.com/Get_Started_with_Video_Captioning.zip

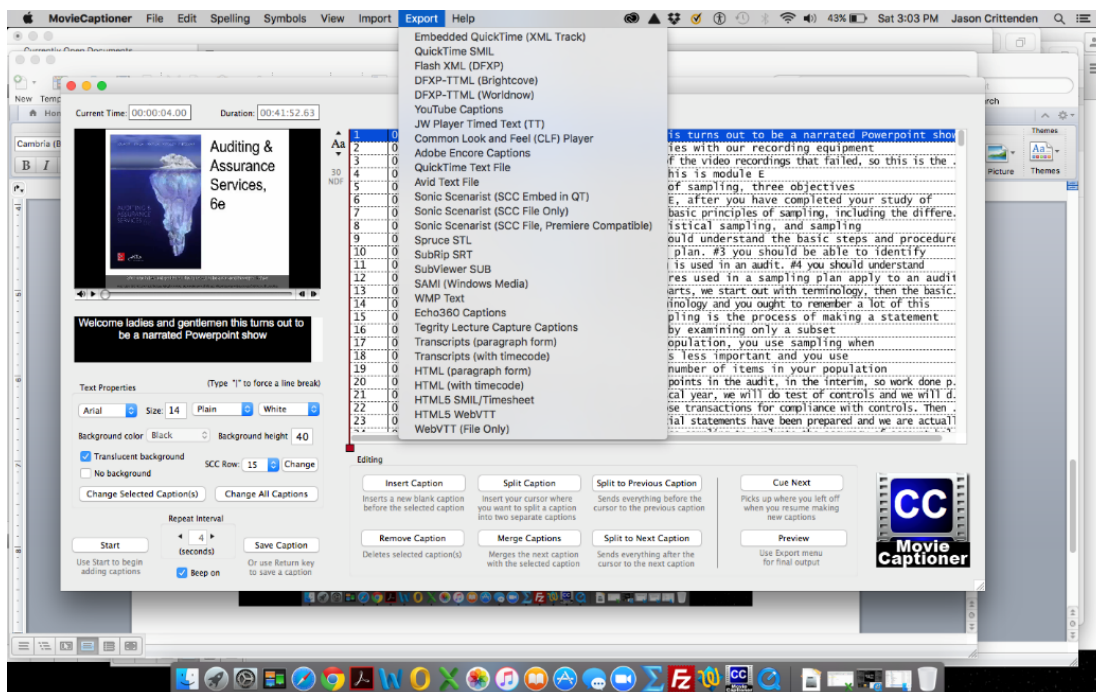
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MovieCaptioner example graphic

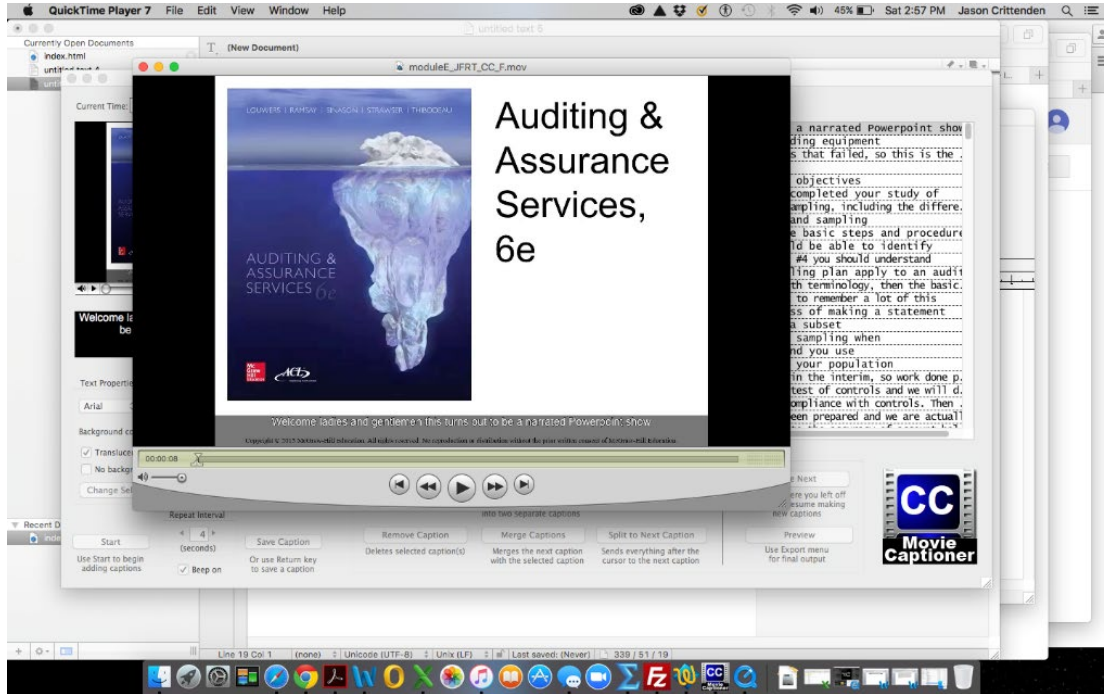


MovieCaptioner example export formats.



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Quicktime Player 7 Pro screen shot



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Creating accessible math expressions for web and MS Word- updated December 6, 2015

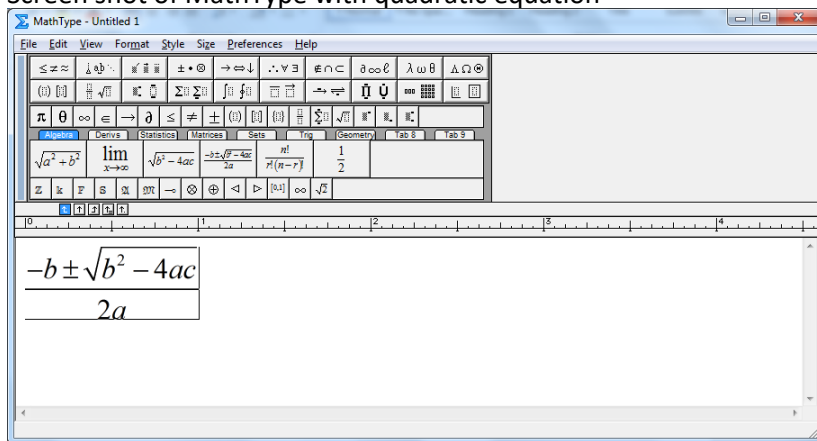
***Note: While this technology has been around for some time, it is often not fully supported by ever changing browsers and some screen-readers. For both examples, a software called [Math Type](#) by Design Science is used to build the expressions. The academic version of Math Type is very affordable at \$57. After installing Math Type, It also adds a plug-in into MS Office products for creating expressions. Math Type will allow for the building of equations and then choosing different methods of output. For MS Word, I use equation object; and for Internet Explorer, I use MathML or TeX. To display equations on the web, a MathJax header will need to be placed on the webpage to load the necessary library files from MathJax. Below are two examples for creating screen reader accessible math equations.

Information about MathJax can be obtained at, <http://mathjax.readthedocs.org/en/latest/start.html>

Information pertaining to Math Type can be found at, <http://www.dessci.com/en/products/mathtype/>

*** If at any time the above links are broken or change, please contact A&AS.

Screen shot of MathType with quadratic equation



Example #1, Building an equation for web usage using Internet Explorer and the NVDA screen reader.

- After building your equation in Math Type choose, Preferences. Then Cut and Copy Preferences
- For Web use, choose the MathML or TeX option and make sure "Include MathType data in translation is unchecked".
- From the Main toolbar select Edit then Select All.
- Then choose Copy and Paste equation into HTML editor where the equation needs to reside.
- In the heading section of your HTML editor, copy the following code. This will allow for the MathJax library files to be called. *** This has only been tested will success using IE 11 and JAWS 16.

```
<script type="text/javascript"  
src="https://cdn.mathjax.org/mathjax/latest/MathJax.js?config=TeX-AMS-  
MML_HTMLorMML">  
</script>
```

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Example #2, Creating accessible equations for use by MS Word and NVDA screen reader.

- A. Create expression in Math Type.
- B. Navigate to Cut and Copy Preferences and choose Equation Object
- C. Select All and Copy
- D. Paste into MS Word

Example settings to copy equation into MS Word

