

# Adobe Accessibility Presentation

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ADOBE



# Agenda

- What is Accessibility
- The Adobe View of Accessibility: What Accessibility Is and Isn't
  - Supporting Designers and Authors
  - Support for Persons with Disabilities
  - Accessibility Standards Compliance
- Creating Accessible Documents
- Accessibility in Acrobat DC



- Section 508
- Section 508 2.0 Refresh – 2017/2018
- WCAG 2.0 – December 2008
  - Web Content Accessibility Guidelines
- PDF – ISO 32000
- PDF/UA - ISO DIS 14289
- EN 301549



- 1980:

The World Health Organization (WHO) first published a definition of disability that defined disability as a health condition.

- Today:

Disabilities is redefined as an umbrella term, covering impairments, activity limitations, and participation restrictions.

Disability is thus not just a health problem. It is a complex phenomenon, reflecting the interaction between features of a person's body and features of the society in which he or she lives.

**1.2 billion (@ 16% of the world's population) have significant or very significant difficulties in their everyday lives**

# Types of Disabilities



Although there are a number of ways to identify different types of disabilities and impairments they all boil down to 5 main categories:

- Vision**
- Hearing**
- Mobility**
- Speaking**
- Cognitive**



Each class of disability covers a full spectrum from mild to complete. For example, for vision you may have a mild loss of vision that a magnifier will solve or you may be fully blind and need a screen reader.



In line with the WHO revised definition of disability reflecting the interaction of people with society it is more than just, for example, whether someone is blind. For each class of disability there are other situational and environmental occasions where the solution for the health focused disability will improve the experience for all users.

For Example:

- Vision is typically thought of as blind or low vision but what if you are trying to read a text on your phone in bright sunlight, or you need to review a document while driving to work.
- Hearing is typically thought of as deaf but what if you couldn't hear a phone call because you were at a loud sports event, or couldn't hear the TV because you are in a sports bar?
- For mobility someone may have lost an arm or be paralyzed but what about the parent holding their baby and only have one arm free or someone who broke their arm skiing?
- Speaking may regard someone who cannot speak but what about someone who is not speaking in their native language or has a sore throat and speaking is difficult.
- Cognitive is the most challenging area because it has such a wide variety of diagnoses such as dyslexia or other learning disorders. But what about temporary dementia brought on by a concussion or lack of ability to focus on a process due to exhaustion or stress?

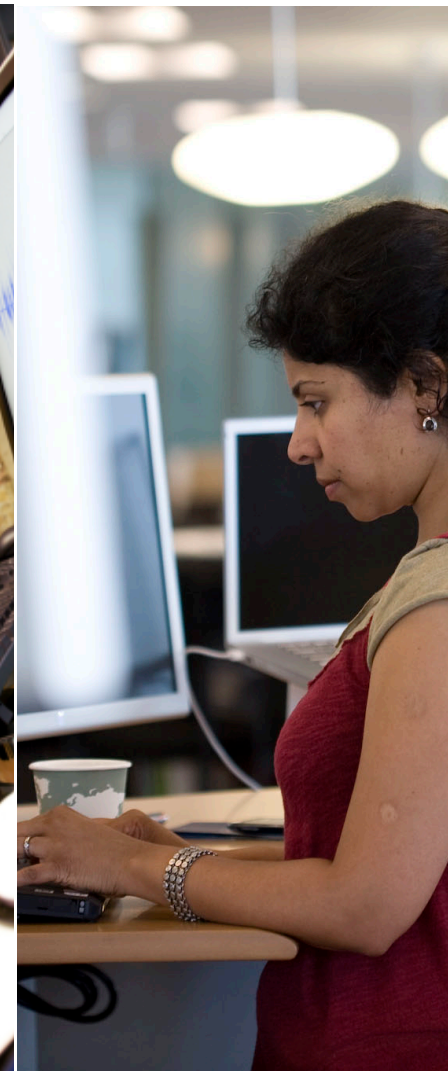
# Providing Accommodation for a Variety of Disabilities



- Accommodation Achieved With or Without 3<sup>rd</sup> Party Assistive Technology
  - Blindness
    - Text to Speech functionality: Read Out Loud and Screen Reader Compatibility also support for Braille output – refreshable keyboards, Braille embossers, support for audio description for Flash and Flash Video
  - Low Vision
    - Text to Speech functionality: Read Out Loud and Screen Reader Compatibility also support for Braille output – refreshable keyboards, Braille embossers, support for audio description for Flash and Flash Video
  - Deaf and Hard of Hearing
    - Closed captioning support for Flash Video based on the TTML standard. Connect Web Conferencing captions pod.
  - Limited Mobility
    - Autoscroll, numerous keyboard equivalents, compatibility with alternate input devices, Support for Voice Recognition - Dragon, ViaVoice
  - Cognitive
    - Read Out Loud, Compatibility with TextHelp's PDFALoud which highlights content as it is being spoken

# What is Accessibility? The Adobe View

- **Accessibility involves two key issues:**
  - How users with disabilities access electronic information
  - How content designers, developers, and authors produce content that functions with assistive devices used by individuals with disabilities.
- **Accessibility is not a feature**
  - It's about Best Practices, processes, and techniques





# Accessibility is NOT a Feature, It's a Result



- There is NO Accessibility Easy Button or Magic Wand – accessible content creation is a Process, NOT a Feature
- Achieving accessibility requires human testing *in addition to* automated tools
- Accessibility is part of a Production workflow – like Authoring, Layout, Proofreading, etc.

# Adobe Strives to Make Its Authoring Tools Accessible

- **Adobe Acrobat DC Pro**
  - Accessibility Repair and Validation
- **Adobe Sign**
  - Accessible web application using text equivalent for user interface components.
- **Adobe LiveCycle Designer**
  - Accessible Forms using PDF, XML, Flash, Flex
- **Adobe Bridge**
  - Can Store Alt Text for Images as Meta Data
- **Adobe Connect**
  - Accessible Web Conferencing with Captions
- **Adobe Contribute**
  - Accessibility Options
- **Adobe Dreamweaver**
  - Accessible HTML Authoring
- **Adobe Animate (Flash Pro)**
  - Accessibility Panel
- **Adobe FrameMaker**
  - Accessible PDF and HTML
- **Adobe InDesign**
  - Accessible PDF, eBook, HTML and XML
- **Adobe Photoshop, Illustrator**
  - provide Alt Text for Images
- **Accessible User Agents:**
  - Acrobat Reader, Adobe Flash Player
- **Adobe Digital Editions**
  - Works with Assistive Technology

## Acrobat

### Consumption

- Screen reader support on Windows and Mac
- Support on Mobile devices (iOS and Android) for basic documents.
- Continuing to improve the reading experience on all devices.

### Creation

- A fully accessible PDF document can be created in Adobe Acrobat.
  - Improved conversion for Word on Mac
- Regular updates to improve our accessibility tools in Acrobat:
  - Autotagging improvements
  - Improvements to the tag tree
  - Undo
  - Contrast

## Adobe Sign

### Consumption

- Users without vision are able to access and interact with all functionality needed to sign and submit a signed document.
  - Because documents for signing are rendered as images users without vision can read the complete document text by downloading the document to be signed in Adobe Reader and then return to the web version to complete the signing process.

### Creation

- It is possible to create accessible form and signature fields in Adobe Sign.
  - Much of the functionality to send a document for signing is fully accessible. We continue to work with users to improve both the accessibility and usability.

# Adobe Product Accessibility Support

- Work in conjunction with conventional Assistive Technology (AT) Screen readers, alternate input devices, speech to text
  - Freedom Scientific (JAWS)
  - GW Micro (Window Eyes)
  - NVDA (Non Visual Desktop Access)
  - VoiceOver (Apple Inc.'s screen reader for macOS, iOS, tvOS, watchOS and iPod)
- Support for a variety of formats (PDF, XML, eBook, Flash, HTML, HTML5)
- Accessible video through support for a new World Wide Web Consortium (W3C) caption data standard (TTML or Timed Text XML File – formerly known as DFXP) in its FLVPlaybackCaptioning component and through accessible player controls for FLV and H.264 video.

## Adobe Has an Accessibility Team

- Provides advisory and consulting role around accessibility issues during product development
  - Product Teams implement accessibility in the products and develop accessibility-associated deliverables as part of the Product Life Cycle
- Advises and assists in the production of end-user support materials
- Participates in and influences accessibility standards development

## Additional Resources

- Adobe's Accessibility Website: Your Portal to Product Related Accessibility Information
  - [www.adobe.com/accessibility](http://www.adobe.com/accessibility)
- Adobe's Voluntary Product Accessibility Templates VPATs
  - [www.adobe.com/accessibility/products/compliance/](http://www.adobe.com/accessibility/products/compliance/)
- Adobe TV Accessibility Channel
  - <http://tv.adobe.com/show/accessibility-adobe/>
- Adobe Accessibility Blog
  - [blogs.adobe.com/accessibility/](http://blogs.adobe.com/accessibility/)

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# Adobe Accessibility Resources

- **Adobe Accessibility Website** - <http://www.adobe.com/accessibility.html>
- **Adobe TV Accessibility Channel** - <http://tv.adobe.com/show/accessibility-adobe/>
- **Acrobat Pro Accessibility Guide** - <http://www.adobe.com/content/dam/Adobe/en/accessibility/products/acrobat/pdfs/acrobat-xi-pro-accessibility-best-practice-guide.pdf>
- **Adobe Acrobat DC Accessibility Features** - <http://www.adobe.com/accessibility/products/acrobat/acrobat-accessibility-features.html>
- **Using the Acrobat Pro DC Accessibility Checker** - <http://www.adobe.com/accessibility/products/acrobat/using-acrobat-pro-accessibility-checker.html>
- **Create and verify PDF accessibility** - <https://helpx.adobe.com/acrobat/using/create-verify-pdf-accessibility.html>
- **Acrobat Pro DC PDF Accessibility Repair Workflow** - <http://www.adobe.com/accessibility/products/acrobat/acrobat-pro-dc-pdf-accessibility-repair-workflow.html>
- **Acrobat DC and Reader DC Accessibility Update** - <https://blogs.adobe.com/accessibility/2015/03/acrobat-dc-accessibility-update.html>





# Challenges in Creating an Accessible PDF

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## Overview of Challenges

- Accessibility of Source Document
- Varying Results Depending upon the Conversion Tool Used
- Lack of Consistency in Applying the PDF & PDF/UA Standards Makes it Hard for Authors to Learn What to Do
- Hierarchy of Tasks
- Some Manual Remediation Almost Always Required
- Variety of Tools Needed to Fully Remediate a PDF Document
- Fillable Form Fields Adds Another Layer of Complexity

# Accessibility of Source Document

- Does the authoring tool of the source document allow the author to create an accessible document.
  - For Example: Word has an Accessibility Checker to help the author make the document more accessible.
- Does the author know how to create an accessible document
  - For Example: In Word, are Styles used to apply Headings or are headings “created” by changing the font size and making the font bold?
- It is almost always easier to remediate the source document than the converted PDF document.

# Converting to PDF

- Multiple Methods
  - Save As
  - Export
  - Print to PDF
  - Plug-ins
  - 3<sup>rd</sup> Party Tools
- Varying Results
  - Tables and Lists may be inaccurately tagged
  - Resulting PDF may be untagged
  - Custom tags may be created

# Applying the Standards

Some areas that may be unclear:

- Document “layout” tags – <Document> / <Part> / <Sect> / <Div>
- Lists - <Lbl> and <LBody> tags
- Figures (Images) and the <Caption> tag - alt text or artifact

## Hierarchy of Tasks (*Here There Be Monsters*)

1. Is the PDF created from a scanned image?
  - If yes – perform text recognition
2. Is the PDF a form with fillable form fields?
  - If yes – add the form fields
3. Does the PDF document or form contain links?
  - If yes – add the links
4. Does the PDF have multimedia?
  - If yes – add the multimedia (make sure it is accessible with captions and video descriptions)
5. **Now** – tag the document
6. After or during tagging have you edited the document
  - If yes, at the very least you will need to remove all tags and re-tag the document or form, it may be necessary to remove all tags, multimedia, links, and form fields and return to step 2

# Manual Remediation

## Common areas that need to be reviewed and remediated

- Tables
- Figures
- Artifacts
- Lists

## Unique considerations depending on the document and means of conversion

- Links
- Form Fields
- Content Shall be Tagged in the Logical Reading Order
- Role Mapping
- Scanned Document

# Multiple Tools Needed

- Acrobat
  - Tools Pane
    - Accessibility Tool
    - Action Wizard
    - Edit PDF
    - Enhance Scans
  - Navigation Pane
    - Tag Panel
    - Order Panel
      - Reading Order Panel
    - Content Panel



# Fillable Form Fields

- Identifying a Form Fields
- Segmenting Form Fields
- Applying a Tool Tip to a Form Field

# Demos

# Intro to Adobe Acrobat Pro DC UI

- Home Tab
- Tools Tab
- Document Tab
- Tools Pane
  - Accessibility Tool
  - Action Wizard
  - Edit PDF
  - Enhance Scans
- Navigation Pane
  - Tag Panel
  - Order Panel
  - Content Panel
- F6/Tab/Arrow Keys to Navigate
- F2 – Copy and Paste

# Lists

- Open document in Acrobat
- Open Tag Tree
- Find mis-tagged lists (usually will have a <P> tag)
- Create <L> tag
- Change list items <P> tags to <LI> tags and make them children of the <L> Tag
  
- Show Additional tags
  - <Llbl>
  - <LBody>

# Artifacts

- Open document in Acrobat
- Open the Tag Tree (this step is not necessary but for illustration only)
  - Note the empty <P> tags, we will come back and check for them after creating the artifact tags
- Open Order Panel
- Select “Show Reading Order Panel” (TURO)
- Select item number for content to be artifacted
  - Artifact the spaces
  - Artifact the image (it has a caption that clearly indicates what the image is so you don't need alt text)
- Select “Background” from TURO (repeat until everything is artifacted)
- Return to the tag tree and note that the previous empty <P> tag is now gone. (again, this step is unnecessary and only for illustration)

# Tables

## Simple Table

- Open document in Acrobat
- Open Tag Tree
- Select and change <TD> tags to <TH> tags

## Complex Table

- Open document in Acrobat
- Open Order Panel
- Select “Show Reading Order Panel” (TURO)
- Select Table
- Change <TD> tags to <TH> tags
- Add “Scope” for merged header cells

# Images

- Open document in Acrobat
- Open Accessibility Tool
- Select “Set Alternate Text”
- Navigate through the images in the document to verify or enter alt text using the arrows.
  - Note: Can set artifacts here too.
- Select “Save and Close” only when done (not for each image)



**Adobe**





## Which Acrobat products must I use to create accessible PDF files?

Although Adobe Acrobat Standard software provides some functionality for making existing PDF files accessible, only Adobe Acrobat Pro software can perform certain tasks — such as editing reading order or document structure tags — that may be necessary to make some PDF documents and forms accessible. You cannot use Adobe Reader to make PDF files accessible, but users can export a plain text version of a PDF file using Adobe Reader.

## Are PDF files that are viewed in Acrobat Reader accessible?



The accessibility of any individual PDF file depends upon how well the author prepared the file for accessibility. Adobe Reader takes advantage of all attributes of PDF files that have been properly prepared for accessibility. Better quality content results in a more satisfactory reading experience.

Adobe Reader attempts to compensate for certain shortcomings in PDF files that have not been properly prepared for accessibility. For example, it temporarily tags an untagged PDF file so that users of assistive technology such as screen readers can read as much of the content as possible.

## Are PDF files that are viewed in Acrobat Reader accessible?



Additionally, Adobe Reader has the built-in accessibility features available in Acrobat:

- Auto-scroll for limited mobility
- Contrast view for visual disability
- Reflow for visual disability
- Read Out Loud for visual disability and cognitive disability
- Read Form Fields for visual disability and cognitive disability
- Save as Text (Acrobat supports the export of other formats, such as Microsoft Word, HTML, RTF, and XML)

Adobe Reader X, however, does not have the accessibility authoring tools included in Acrobat X. For example, it cannot perform optical character recognition (OCR) conversions, nor can it add missing alternate text descriptions to graphics in PDF files.

## Can I make scanned PDF files accessible?



The first step in making scanned documents accessible is to perform Optical Character Recognition, or OCR, on the scanned page image. OCR converts images of alphanumeric characters into actual text that can be searched, read by assistive technology, exported to other formats or copied and pasted into other applications. Acrobat has OCR text recognition feature that allows you to apply OCR to the scanned pages.

The resulting PDF files contain computer-generated text, which is necessary for making the file's information accessible via screen readers and other assistive technologies. You may need to further process the files at this point by using the accessibility authoring tools in Acrobat to add structure (tags), alternate text for graphics that appear in the file, and accessible form fields if applicable. You may also need to adjust the reading and tab order for interactive PDF file components.

## Can I make fillable PDF forms accessible?



Acrobat offers a number of options for creating accessible, interactive PDF forms. The form tools in Acrobat Pro allow you to automatically recognize form fields in PDF files and Microsoft Word documents. Acrobat form tools can create accessible interactive PDF forms. You can also use Adobe LiveCycle® Designer ES software, a point-and-click graphical form design tool that simplifies the creation of forms. Forms and documents that are created in LiveCycle Designer ES can be merged with business data and rendered as a number of accessible file types, including PDF, HTML, and SWF.

## Why must I tag PDF files to make them accessible?



The ability to tag PDF documents is part of the PDF specification that allows PDF files to contain logical document structure such as headings, figures, and paragraphs. Tagged PDF files include complete logical structure plus additional information about a document's contents that substantially increase accessibility.

## Why must I tag PDF files to make them accessible?



Some accessibility benefits of tagged PDF files include:

- Allows users of screen readers to navigate by the documents heading levels (H1, H2, etc.)
- Support alternative text descriptions for graphics
- Allow precise control over document reading order and semantics, including headings, table data, and form fields
- Understand paragraph attributes, which is necessary for accurate text reflow
- Enable the export of document content and structure to other formats, such as RTF and TXT Allow accessible interaction with documents, such as filling in form fields and following links