

How to Create Accessible PowerPoint 2007 Presentations

Introduction

As with all other electronically conveyed information, if you are going to post slides created with Microsoft PowerPoint on the VA intranet, or provide them for general use, they must be accessible to people with disabilities. This includes people who use Assistive Technologies (AT) such as screen readers, which are software programs that provide the information to a blind or visually impaired user in audible or Braille output. In this way, not only can screen reader users review your slides after a presentation, but when provided in a timely fashion beforehand, the blind user will be able to follow along during the real-time presentation of the slides as well.

Creating an accessible PowerPoint presentation need not be a daunting task. With some planning, and an understanding of issues of accessibility and how screen reader technologies interpret and convey the contents of a slide, the process is fairly straightforward.

Key things to keep in mind are:

- The order in which objects appear on the slide
- Making sure alternative text is provided for objects such as images, charts and graphs
- Maintaining good levels of contrast for visual information and keeping your slides relatively uncluttered
- Providing text captioning for any audio information that is embedded in your slides.

This document provides an introduction to these concepts and practices that allow you to start creating PowerPoint 2007 slide presentations that are accessible and meet Section 508 guidelines.

Contents

Screen Readers.....	2
Order of Content	3
Setting Z-Order.....	4
Alternative Text	5
Grouping Objects	6
Tables and Lists	7
Color, Contrast and Readability	8
Accessibility of Cool PowerPoint Tricks.....	8
Summary	9

Screen Readers

Because issues involving screen reader accessibility take a little more explanation we will begin there. As mentioned earlier, a screen reader is a type of Assistive Technology (AT) that allows a blind or visually impaired computer user to interact with applications and information through spoken and/or Braille output. There are quite a few screen reader applications available for different platforms, but the two that are most frequently used on the Windows Operating System are JAWS from Freedom Scientific, and Window-Eyes produced by GW Micro.

Each of these screen readers is quite useful and versatile. However, each approaches the reading of PowerPoint slides slightly differently, so it will take some planning to ensure that users of both products can interact with your slide deck successfully.

If you are curious and would like to try them out, both JAWS and Window-Eyes have full-featured demo copies that can be installed. They will each run for a limited time (30-45 minutes) before timing out. At that point, you can shut them down or restart your PC, and they will run for another demo period.

Some things to keep in mind when trying out a screen reader include:

- THEY MAY NOT BE COMPATIBLE WITH ALL SYSTEMS, so be sure to back up your system in case you are one of the few that has issues that could lead to system instability.
- There is a learning curve associated with working with screen readers, especially in specialized environments like PowerPoint and the web. We do not recommend that you attempt to do full testing of screen reader accessibility on your own unless you have extensive experience with these products. For questions and assistance, please contact the VHA OHI Section 508 Office at vha19Section508@va.gov.

Order of Content

As you add and remove objects on a slide – such as text boxes, graphics, WordArt objects, and drawing objects – PowerPoint keeps track of the order in which they are layered. This order is called “Z-Order,” which is the content order of layers from back to front on the slide with the object furthest back having the lowest Z-Order.

When reading slide content to a user, JAWS follows the Z-Order of objects on the slide. Window-Eyes instead reads objects from left-to-right, top-to-bottom, based on the precise location of the top left corner of each object’s text box or shape border, not the location of any text or graphic it contains. So in order to make sure that all screen reader users can read your slides effectively, you’ll need to make sure that both Z-Order and horizontal and vertical alignment are set properly.

Setting Horizontal and Vertical Alignment for correct reading in Window-Eyes: Differences in vertical or horizontal position that are barely noticeable to a sighted person are noticed by Window-Eyes. If three objects appear in a row and the top of the middle one is a bit lower, it will be read last. If two objects overlap and one’s left border is slightly to the right of the other’s, it will be read second.

To precisely line up the tops or left sides of objects:

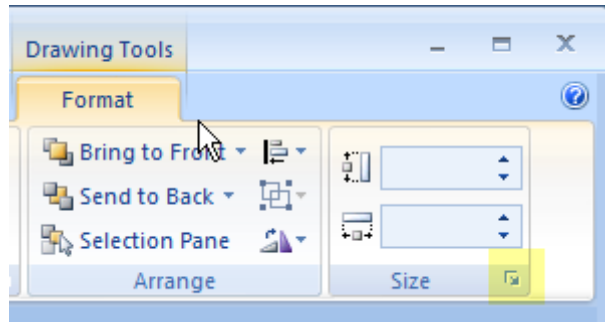
1. Hold down the Shift key and select the objects to be lined up.
2. From the Arrange section of the Format tab on the ribbon, select Align > Align Top or Align > Align Left.

Alternatively, select the “Size and Position” option in the ribbon or context menu, go to the Position tab, and enter the desired top or left position.

3. Re-order objects when possible to make reading order correct. (To make certain types of charts more easily understood when listening to them, it may be a good idea to present them in reverse order. Please contact us if you have questions.)

Finding the “Size and Position” option the first time can be tricky:

- In the ribbon, use the small, unmarked button to the right of the Size section’s name in the Format tab. You may want to add this to your Quick Access toolbar with a right click on it.
- To open a context menu with the “Size and Position” option included, right click on an object’s border, not in the text or image area, or use Shift+F10 while one or more objects are selected.

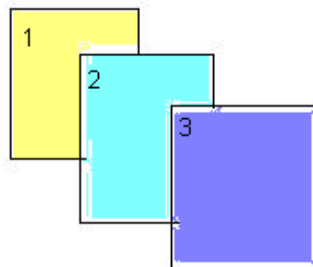


Setting Z-Order

Once the alignment of the objects on your slide has been set properly, you can change the Z- Order to make sure that JAWS will also read the slide correctly. You can check the Z- Order of the objects on your slides by tabbing through them while in Design View. The tab order of the objects is the same as their Z-Order from lowest to highest.

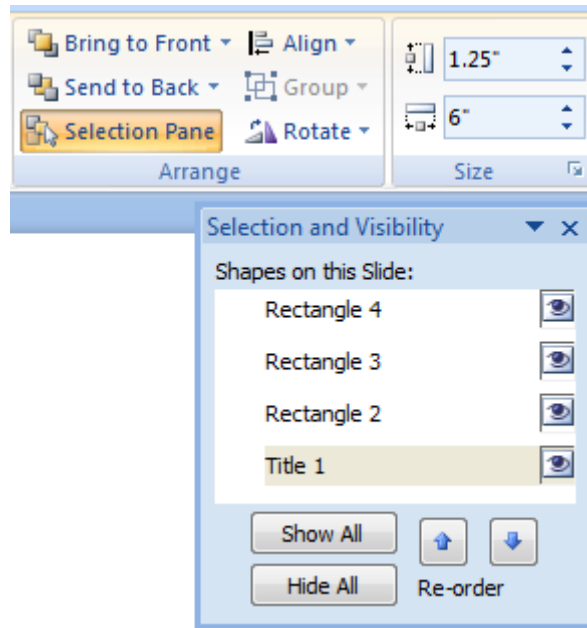
To change the Z-Order:

1. Select the object that should be read first.
2. Select the context menu (right mouse click on object border or shift+F10).
3. Select "Bring to Front."
4. Select the next object to be read and select "Bring to Front" from the Context Menu.
5. Repeat for all objects on the slide until the Z-Order matches the intended reading order.



Another way to change the Z-Order:

1. Select Selection Pane from the Arrange section of the Format Tab on the ribbon.
2. Use the Re-order buttons to set the reading order from bottom (read first) to top (read last).



Alternative Text

All images on your slides that convey meaning need to have alternative text so that someone using a screen reader knows what they are and why they are there.

For pictures and figures, describe the image and details that might be relevant to your decision to include it. "Boarded up house" conveys more meaning than just "house." You do not need to say "image of" or "figure of" unless it is significant that you are showing something like a particular type of image such as a photograph, painting, or chart.

You do not need to describe small decorative images that do not convey meaning like "decorative curved line."

For images that convey data, like graphs and bar charts, it is best if the significant data is discussed in the body of a slide rather than having to rely on alternative text to convey many numbers. However, when possible, the alternative text for a chart or graph should explain the overall purpose of the figure such as, "chart showing yearly increase in funding from 1998-2006."

To add alternative text to images on your slides:

1. Select the image with which you wish to work.
2. From the context menu or the Format tab on the ribbon, choose the "Size and Position"
3. option and go to the Alternative Text tab.
4. Enter appropriate alternative text for your image.

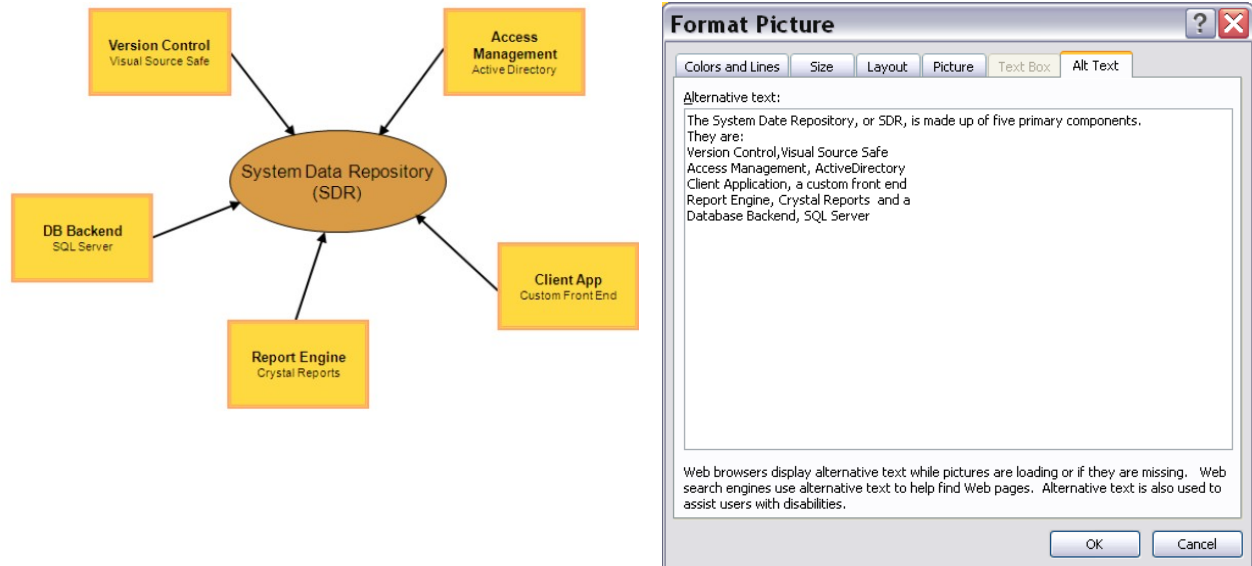


Grouping Objects

You may need to group objects when reordering them is impractical, or when providing alternative text for each individual object does not make sense, such as when particular relationships between objects need to be maintained. To do this:

1. Select the objects you wish to group together.
2. From the Context Menu, choose the Group option.
3. Select Group.

Then assign alternative text to the group as you would for an individual object, making sure to accurately describe the group, order and relationship of the objects in the group.



Tables and Lists

Now that we have covered the basics of making your slides accessible, we will get into more details about not only making them minimally accessible, but conformant with Section 508 requirements and best practices.

One of these techniques is the proper design of lists and tables on your slides. You should use the List options and the Insert Table option in PowerPoint. This ensures that these items are properly identified by any programs (like screen readers) which need to identify how information is related.

For bulleted lists:

1. Select the text you want to use in your list.
2. Activate the Home tab of the Ribbon and choose Bullets and Numbering in the Paragraph section.
3. Choose your list type.

For data tables:

1. From the Insert option, select Table.
2. Select the number of rows and columns.
3. In Table Style Options, mark the checkbox for "Header Row" if using column headings.
4. Mark the checkbox for "First Column" if your first column will contain row labels.
5. Then enter your data in the appropriate cells.

Color, Contrast and Readability

Above, we covered some of the more technical parts of correctly designing your slides. There are design practices that you should keep in mind that have less to do with Assistive Technologies than general accessibility and readability of your presentation for all users.

Be sure that color is not the only means of conveying information and that there is a good level of contrast between the foreground and background of your slides. This does not mean do not use color, just be sure that your use of color provides access to as diverse an audience as possible. It is especially relevant for people with impaired vision or color blindness. This not only makes good usability sense, it meets two Section 508 guidelines.

Try to keep background images simple and transitions to a minimum, to reduce potential distraction or accessibility issues.

For readability, use standard non-cursive fonts no smaller than 18 point.



Accessibility of Cool PowerPoint Tricks

If you want to get fancy with your presentation, you will need to consider accessibility while doing so. This does not mean you should not use animations or multi-media, just make sure that the content is fully accessible as well.

Visual animations will require an audio description. Audio content will need to be captioned.

Make sure that multimedia content does not flash or flicker at a perceptible rate. (This is a guideline and prevents inadvertently triggering seizures in your audience.)

If there are features that are triggered by a mouse rollover, make sure that they can also be accessed with the keyboard.

If, for some reason, there is no way you can make your presentation accessible, you must provide the material in an accessible format that provides the same level of information and functionality. This may be a document (in Word or PDF), or a web page. With forethought and planning, however, this shouldn't be necessary for most presentations.

Summary

For your PowerPoint 2007 presentation to be accessible, you should:

- Make the information accessible to screen reader users by doing the following:
 - Properly arranging the vertical and horizontal alignment of objects on your slides
 - Properly arranging the Z-Order of objects on your slides
 - Making sure all meaningful images have alternative text associated with them.
- Make good color and contrast choices.
 - Make sure you do not rely on color alone to convey meaning.
 - Use a readable font and font size (standard non-cursive, 18 point or greater).
 - Minimize distracting images and transitions on your slides.
- Make sure all multimedia is accessible.

Our VHA Section 508 Office is happy to help you with any questions. Please feel free to contact us at VHA10P7ASection508@va.gov.