

Center for Faculty Development and Support

Creating Accessible Forms

**Word 2007
and
Acrobat Professional 9.0**

Tutorial



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Phase 1

**Create Form
Content in
Word**

Phase 2

**Recognize and Edit
Form Fields in
Acrobat
Professional**

Phase 3

**Check and Repair
Accessibility in
Acrobat
Professional**



Tutorial Content

What is an accessible form?	4
Electronic text content	4
Logical reading order	4
Alternative texts for images	4
Meaningful hyperlinks	4
Form Content Creation in Word	5
1. Create form content	5
2. Apply Styles	5
3. Insert tables for form components	6
4. Add Alternative Text	7
5. Modify Styles	7
6. Save file and convert to Acrobat PDF	8
Form Fields Recognition and Editing in Acrobat Professional	8
1. Check language specification	8
2. Recognize the Word document's form fields in Acrobat	8
3. Add and edit form fields	8
4. Additional options for manipulating your form fields	10
5. Check tab order	11
Accessibility Check in Acrobat Professional	12
1. Read Out Loud screen reader check:	12
2. Full Accessibility Check	12
Repair Typical Accessible Form Problems	15
1. Missing tag	15
2. Wrong tag	15
3. Missing alternative text	15
4. Wrong tab order	15

NOTE: Pages 11 through 16 were updated in April, 2010.

What is an accessible form?

An accessible form should have the following features:

Electronic text content

Real text content, not an image of text

Why? Users can use a **screen reader**, an assistive technology for text-to-speech conversion and to navigate your document by using keyboard short cuts.

- **Tips:** When "text" is not readable by a screen reader is because it is a scanned image. You can use OCR (Optical Character Recognition) software to scan or rescan your materials to become electronic text.
- **Keyboard short cuts for the screen reader** to access fields in a PDF— **Tab** to the next form field; **Shift+Tab** to the previous form field; **up or down arrow** to select options within a combo or list box; **space bar** to select a box or a radio button.

Why? Users can directly interact and input data into the form electronically.

- **Tips:** Create your accessible content in **MS Word** and then convert to accessible **PDF** format in **Acrobat Professional**. You can use functions in Acrobat Professional to convert your Word form into a PDF Form for electronic direct input and keyboard access.

Logical reading order

Inherently, the content should have a structure for the components

Why? Users can access your information in a structural order visually as well as with a screen reader. A screen reader can recognize all the headings. It will read from left to right first and then from top to bottom. If information is layout in columns, it will read the left column first. If the information is layout in table, it will read the cells in a row horizontally first.

- **Tips:** Format your content components with Styles in Word, such as heading, paragraph, etc. Spaces between groups of information should be formatted by using the Spacing Before or Spacing After.
- **Tips:** In **Word**, format your form content in tables and avoid merging vertical row/s of cells. This will create an infinite loop for a screen reader when reading row by row. Avoid using tabs to format content.
- **Tips:** In **Acrobat Professional**, form fields should have tab numbers assigned to them in a sequential reading order for a screen reader. Check the tab order of forms field in Form Editing mode.

Alternative texts for images

Text equivalent descriptions for images

Why? Screen readers can only recognize text information therefore images, such as logos, illustrations, charts, photos, etc., need to have text equivalent information embedded. This embedded information is called Alternative Text.

- **Tips:** In **Word**, create the Alt texts for all your images. Group small images of the same description first before creating Alt text. Use inline layout format for your images. Remember using color to communicate information or reading direction is not accessible. Color is like an image, not text.

Meaningful hyperlinks

Descriptions of the hyperlinks' destinations

Why? Users can use keyboard short cuts to access all the hyperlinks separately. It would be helpful if these hyperlinks are labels that describe of the destinations rather than the long string of URL.

- **Tips:** Apply hyperlink function to a text label that describes the destination of your hyperlink. This label is your anchor. You can also input the text of the actual hyperlink address (URL) next to the label in parenthesis.

Form Content Creation in Word

1. Create form content

- a. Use **Word** as your **authoring application** for your form content to create the major form components.
- b. Create your content in a logical reading order that has a structure for the content components such as, create all the titles, instructions, headings, etc. first and apply Styles to these elements.
- c. Use **Tables** for creating your form components that consist of form fields and their labels.
- d. Use the **Caption** features in **Tables** for naming the headings of form component tables, or create separate headings for the tables. To access the Table Caption, right click on the table. After inputting the caption, close the window. Delete the text of "Table 1" from your caption and apply the appropriate Style, such as Heading 3, to your caption. (You do have the option to create a separate heading for the table and not use caption.)
- e. Directions on **Apply Styles**, **Insert Tables**, **Add Alternative Text**, and **Modify Styles** are to follow.

The screenshot shows a form titled "Journal Subscription Form". The form is divided into three main sections: "Background Information", "Contact Information", and "Subscription Information".

Contact Information section contains a table with the following fields:

First Name		Last Name	
Address			
State		Zip Code	
Phone		Email	

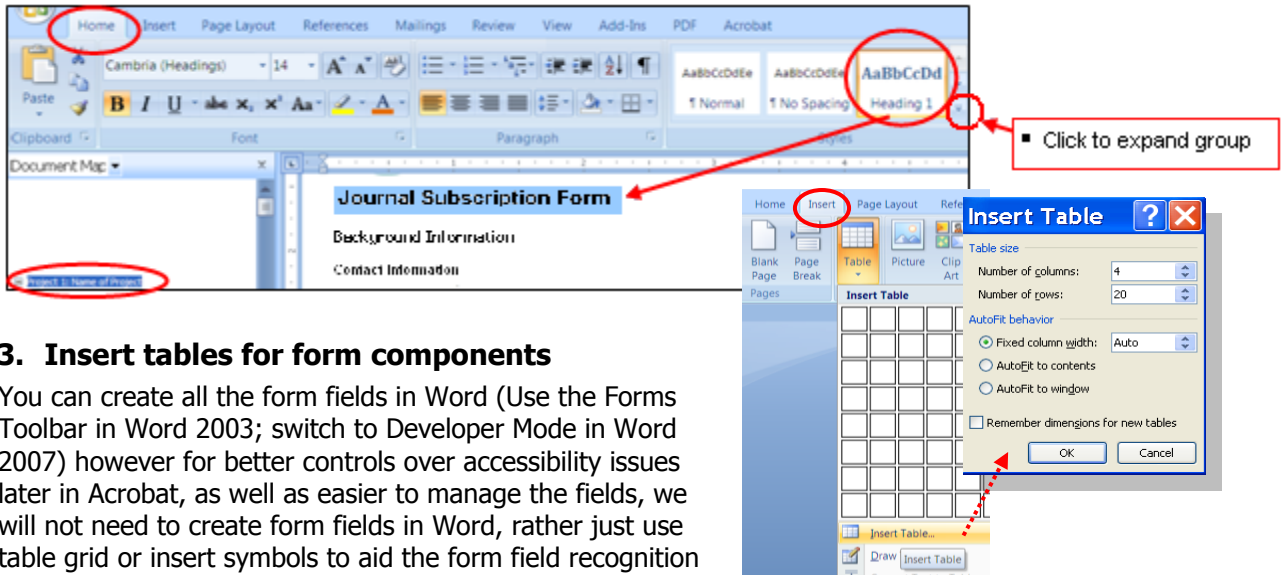
Subscription Information section contains a "Previous Subscription" section with the question "Did you subscribe before?" and two radio buttons labeled "Yes" and "No".

Annotations with red boxes and arrows point to specific elements:

- "Heading 1 Style applied" points to the main title "Journal Subscription Form".
- "Heading 2 Style applied" points to the "Contact Information" section heading.
- "Normal Style by default" points to the "First Name" label in the table.
- "Heading 3 Style applied to the Caption of the Table" points to the "Contact Information" caption below the table.

2. Apply Styles

- a. For your form title, you can apply **Heading 1 Style**.
- b. Highlight the title or clicks anywhere once in that line or paragraph, and go to the Home tab's **Styles** group.
- c. Select the **Heading 1 Style**. If you do not see a specific Style, click on the down arrow, or the expand-all arrow on the right-hand side to collapse the window of Styles.
- d. For your form components' title, you will apply Heading 2 Style in the same way.



3. Insert tables for form components

You can create all the form fields in Word (Use the Forms Toolbar in Word 2003; switch to Developer Mode in Word 2007) however for better controls over accessibility issues later in Acrobat, as well as easier to manage the fields, we will not need to create form fields in Word, rather just use table grid or insert symbols to aid the form field recognition (generation) in Acrobat.

a. Insert table to set up text form fields

- Go to the **Insert** tab and click on the **Table** icon and select the **Insert Table** option. In the **Insert Table** window, enter the numbers of columns and rows for your labels and form fields. Each label cell should be followed by one empty cell for easier formatting purposes in **Acrobat Form Recognition**.
- **Normal Style** will be the default Style for content in the table.
- **Make Table grid invisible**
- Select your table. Go to the **Home** tab's **Paragraph** group and click on the down arrow next to the **Table Border** icon. The Table Border options list will drop down. Select **No Border**.

b. Adjust the cells' widths

- Often you will have to merge or split cells in a row to allow for consistent formatting purpose for allowing the form fields to be recognized and inserted in Acrobat.
- To merge cells, highlight the cells and right click for table's options list. Click on **Merge Cells** when options list appears.
- Click and drag a column grid to the right or the left to align the column cells for the form.

c. Insert form field symbols to aid form field recognition in Acrobat

- Go to the **Insert** tab's **Menu** group and click on **Symbol**.
- Select a **circle** symbol for a radio button, or a **square** symbol in the **Symbol** window. Enlarge the font size to two-size up.

4.

Journal Subscription Form

Background Information

Contact Information

First Name		Last Name	
Address			
State		Zip Code	
Email			

Subscription Information

Previous Subscription

Did you subscribe before? Yes No

Drag column grid to align label width or form field width.

Merge cells to allow for one form field

Allow space after the label if you plan to create the form field in Acrobat. Otherwise insert symbols in Word to aid form field recognition in Acrobat.

4. Add Alternative Text

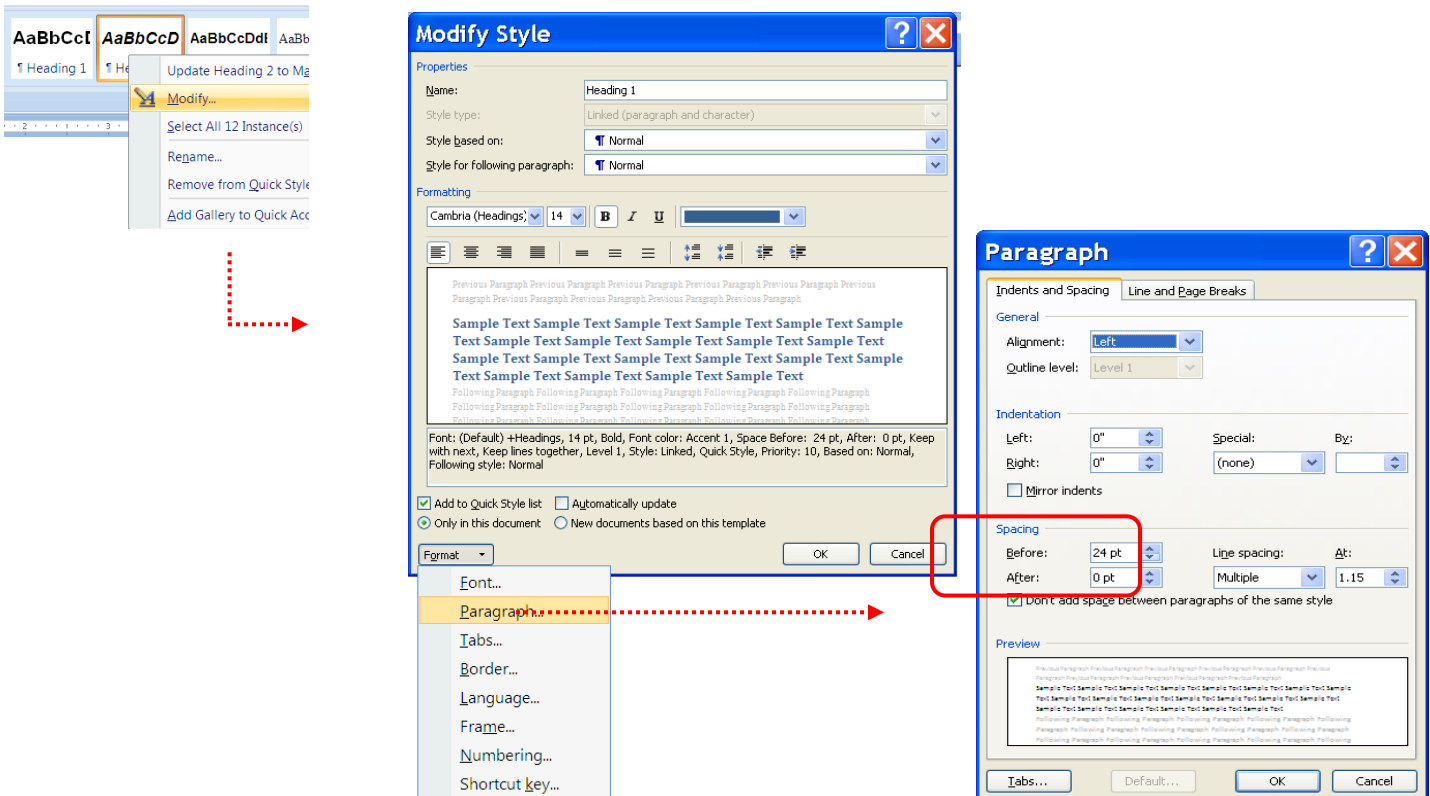
- Right Click on the image and select **Size** or **Size and Position** in the options list.
- Select the **Alt Text** tab in the **Size** window.
- Input your succinct description in the **Alternative text** area. Click **Close** when done. Your **Alt text** will be embedded in the image and will not be visible in the Word document.



5. Modify Styles

You can modify Styles if you are not satisfied with the Styles that were built into the default template of a Word document.

- Right click on a **Style** in the **Styles Group**, more options will appear. Select **Modify...**
- In the **Modify window**, you can create new Styles and manipulate the basic font and alignment attributes.
- If you click on the **Format button** at the lower left, you will see more options.
- For example, in the **Paragraph window**, you can adjust the **Before** and **After** spacing of your Style. This will **avoid** using the **Enter key** to create empty lines, or “blank” as read by a screen reader, for formatting purpose.



6. Save file and convert to Acrobat PDF

- a. Save your document. Go to the **Acrobat** tab and in the **Create Adobe PDF** group click on the **Preference** button.
- b. Make sure the **Enable Accessibility and Reflow with Tagged Adobe PDF** option is selected. Click **OK** when done.
- c. Click on the **Create PDF** button and start the conversion.
- d. Save file and check the **View** result check box. **Acrobat** launches the PDF document when conversion is finished.

Form Fields Recognition and Editing in Acrobat Professional

1. Check language specification

- a. Go to the **File** menu.
- b. Select the **Properties** option. The **Document Properties** window appears.
- c. Select the **Advanced** tab.
- d. Navigate to the **Reading Options** area.
- e. If your document is in English, you could select **English US** from the language menu otherwise select the appropriate language from the drop down list.

2. Recognize the Word document's form fields in Acrobat

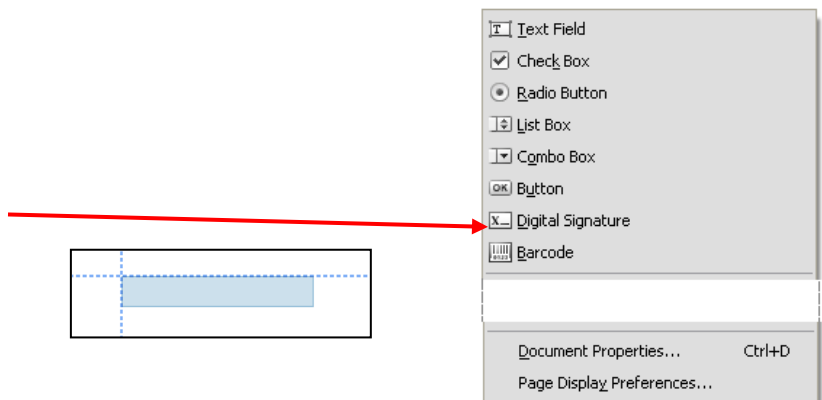
- a. Go to the **Advanced** menu and click on **Accessibility**.
- b. Select the **Run Form Field Recognition** option. Form fields will be recognized. (Or you can go to the **Form** menu and select the **Start Form Wizard** option. The Wizard also allows you to load another PDF document for recognition. Click through the steps to recognize the document.)
- c. All the Text form fields will be recognized and you will be in **Form** Editing mode when recognition is finished.

3. Add and edit form fields

- a. Go to the **Form** menu and select **Add or Edit Fields**. This activates the **Form Editing** mode.
- b. Right click on the location where you want to insert a new form field. The form field options list appears.

- c. Select your **form field**, such as **Text** field. A blue cross hair floating form field appears that replaces your cursor function.

- d. Click to determine the location of your Text field and resize by dragging the blue rectangle to different shapes according to the function such as, for a Text field it would be rectangle, for a Radio Button or a Check Box it would be square, etc.



4. In the **Options** tab, enter **Submit Form by E-mail** in the **Label** field.
 5. In the **Actions** tab, select the following criteria: Select trigger: **Mouse up** and Select action: **Submit a form**. Click the **Add** button to add criteria to the Actions box. The **Submit Form Selections** window appears.
 6. In the **URL** field, enter **mailto:** followed by your email address, such as, <mailto:waimei.fang@sjsu.edu>. Select the **Complete PDF document** in the **Export Format** options (if that is your option). Click **OK** when done.
*Caution: this action is NOT for linking to a website. For that purpose you should go to Select action: **Open a web link**.*
 7. You can manipulate the visual options in the **Appearance** tab or the layout of the button in the **Options** tab.
 8. Click **Close** when done.
 9. Click **Preview** on the upper left of your toolbar. Test the button in the **Preview** mode. Click **Close** Form Editing on the upper right of your toolbar when done.
- o **Example for creating a Print button** to print form:
 1. Follow the steps above to create the button with a different label name Print Form.
 2. In the **Actions** tab, choose an action for the mouse behavior over the button such as, on **Select Trigger** to be **Mouse Up**, and **Select Action** to be **Execute a menu item**. Then click the **add** button. In the **Menu items** window, select **File> Print...** Click the **Close** button when done.

▪ **Format tab:**

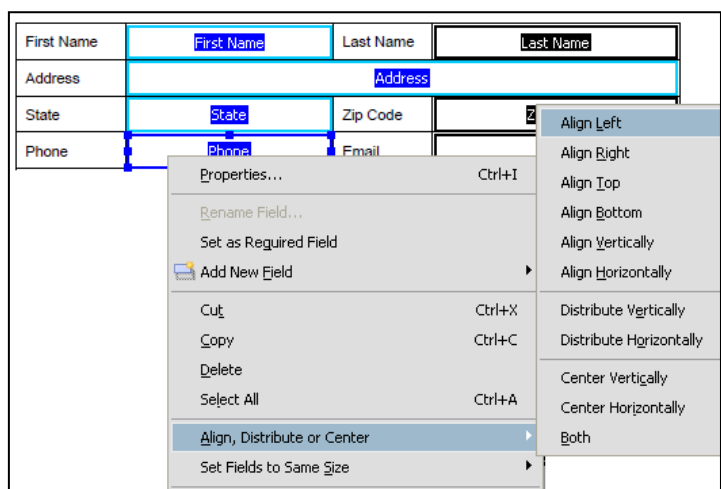
- o **Example for a Text field:** You can designate a format to the data in this field by clicking on the **Select Format Category** combo box. In addition to options such as Time, Number, Percentages, etc. you can also select from **Special** for data that might appear in a special combination such as phone numbers, social security, etc. Click the **Close** button when done.

For more about the form field properties please visit [Nuts and Bolts of PDF forms](http://www.acrobatusers.com/articles/2006/09/nuts_bolts_forms)
http://www.acrobatusers.com/articles/2006/09/nuts_bolts_forms.

4. Additional options for manipulating your form fields

a. **Alignment Standardization Options**

- Select the fields that need to be aligned or distributed
- Right click on one of the selected fields. The options list appears.
- Select the **Align, Distribute or Center** option and click on one of the functions from the expanded list.



b. **Field Size Standardization Options**

- Select the fields that need to be resized.
- Right click on one of the selected fields. The options list appears.
- Select the **Set Field to Same Size** option and click on one of the options from the expanded list.

c. **Viewing Option**

- Go to the **View** menu and select **Grid**. A grid background will appear to aid your alignment of form field objects. If you need to adjust the units of this Grid go to the **Edit** menu and select

Preferences. In the Preferences window select the **Units and Guides** Category. To get rid of the **Grid**, just deselect the option from the **View** menu.

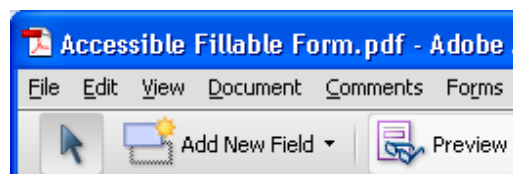
5. Check tab order

The tab order for form fields enables people with disabilities to use a keyboard to move from field to field in a logical order. After you complete your form design or editing, there are two ways you can test the tab order of a form.

In **Preview** mode,

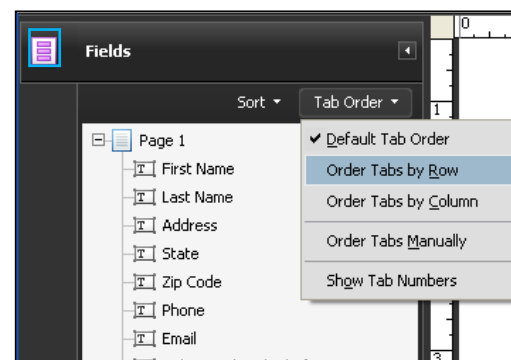
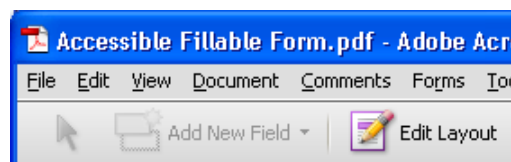
Click the **Preview** icon to display the Preview mode. The wording of your Preview icon will change to **Edit Layout**.

- Click **Tab** key to move forward from one field to the next.
- Click **Shift + Tab** keys to move back to the previous field.
- Use **Up or Down Arrow** keys on your keyboard to make selection from a combo box or list item field.



In **Form Editing** mode,

- Click **Edit Layout** icon to display the Form Editing mode. The wording of your Edit Layout icon will change to **Preview**.
- A **Fields** panel should be open on the left side of your form window. If not, click on the **Fields** icon to display the Field panel.
- Click on the down arrow next to **Tab Order** and select **Default Tab Order**. A pop up window will inform you if you need to rearrange the tab order. Just drag and drop them to the preferred locations. Tab numbers will be rearranged.
- If the order is not correct, you can select the **Order Tab by Row** option. All the tabs of the form fields will be sequential row by row. Rearrange the tab order to your desired sequence.



Accessibility Check in Acrobat Professional

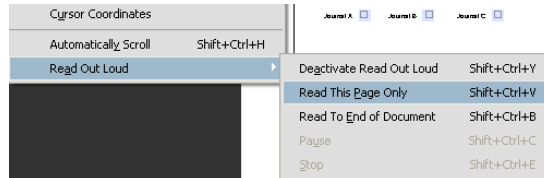
To ensure your form is interactive or accessible, that is, the form can be read and filled in a logical order by the screen reader software, go through the steps below to verify.

1. Perform Read Out Loud Check

Validate the logical reading order for both form content and form fields.

To validate the logical reading order for form content

- a. Under **View** menu select **Read Out Loud** then select **Activate the Read Out Loud**.
- b. Select **Read Out Loud** under **View** menu again and select **Read This Page Only**.



Page Only. Listen carefully to make sure the entire form is read correctly.

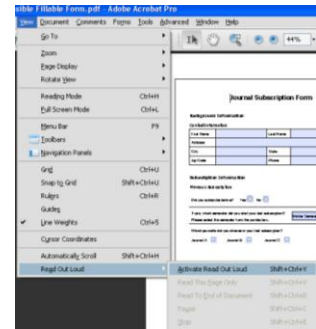
To validate the logical reading order for form fields by using Tab Order

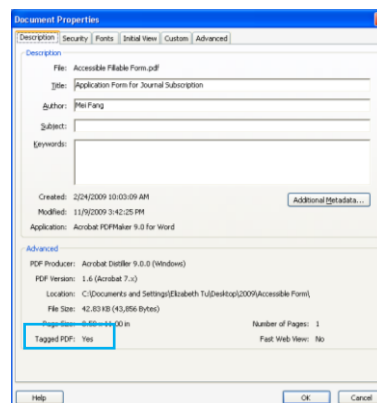
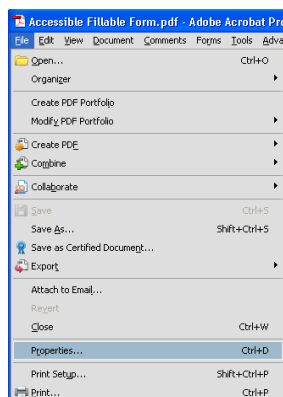
- c. Press the **Tab** key to direct the screen reader to recognize and read each form field. The text you enter in the **Tooltips** box of each **Form Field Properties** window will be read.
- d. Use the following keyboard commands to move to each field and hear what is read
 - Press **Tab** key to move forward to the next form field
 - Press both **Shift and Tab** keys to go back to the previous form field;
 - Press either **Up or Down arrow** key to select options within a **Combo or List Box**;
 - Press **space bar** to select **Check Boxes** or **Radio Button**.

2. Perform Tag Check

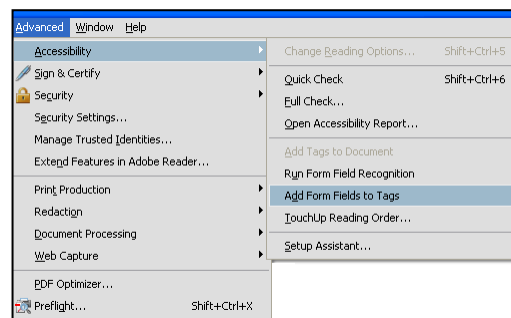
Tags in a PDF document indicate the structure of the document such as, heading, figure, table, etc. Assistive software relies on document structure to determine the logical reading order of the text and to convey the meaning of images or other non-text elements. Follow steps below to verify your form is properly tagged.

- a. Under **File** menu select **Property**. Click **Description** tab and verify at the bottom that **Tagged PDF:** is marked **Yes**. Click Ok to close **Document Property** window.





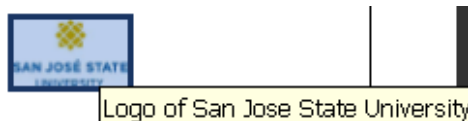
- b. If **Tagged PDF** is marked **No**, go to **Advanced** menu, select **Accessibility** then select **Add Tags to Document**.
- c. To verify all form fields are properly tagged, go back to **Advanced** Menu, select **Accessibility** then **Add Form Fields to Tags**.



3. Perform Check on Images or Non-text Elements

Screen reader does not recognize any non-text elements such as, images, graphics, figures, etc. and will skip reading them out loud. If there are any non-text elements on your form, add descriptive alternative texts to the images to convey the visual information.

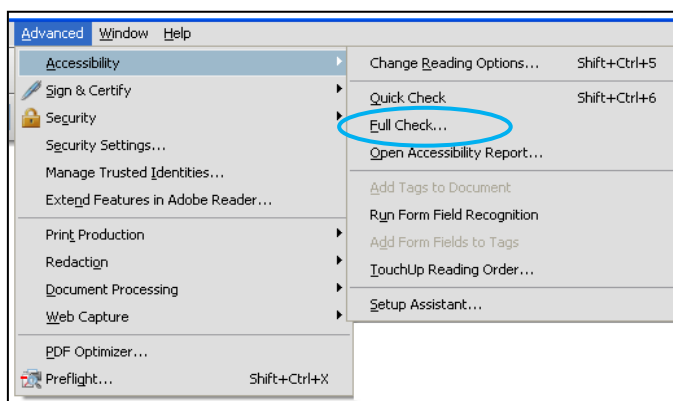
- a. Click on the image or non-text element to see if alternative text descriptions have been added.



4. Perform Accessibility Full Check

- a. Under **Advanced** menu select **Accessibility** then **Full Check**. An **Accessibility Full Check** window will be displayed. You may select an accessibility standard such as, Adobe PDF, Section 508, W3C, etc. from the **Name** menu of the Checking Options to check for your accessibility options. A comprehensive checklist according to the Section 508 legal requirements on electronic information will be listed.

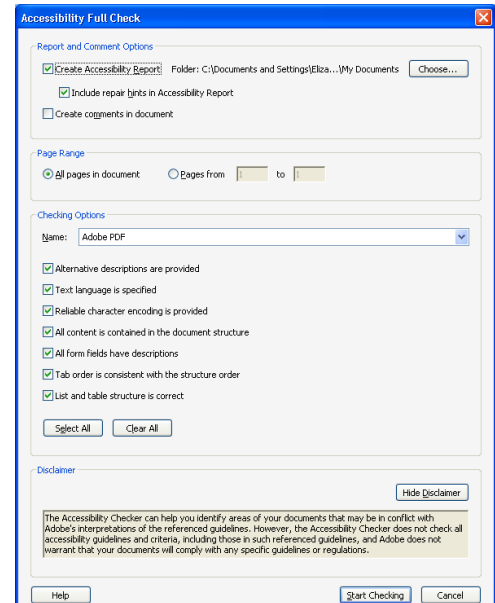
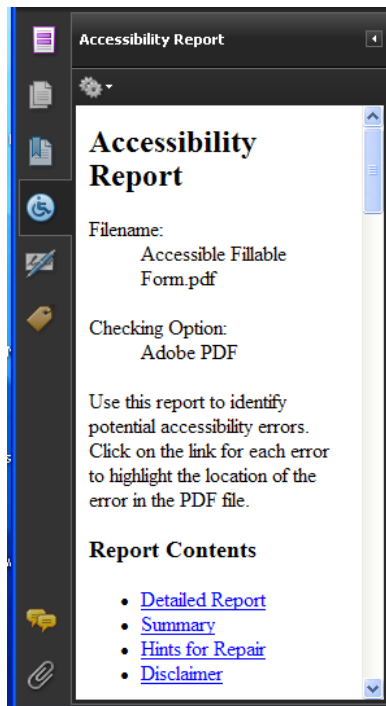
NOTE: For more about the Section 508 standards please visit the [CSU accessibility web site](http://www.calstate.edu/accessibility/section508/standards/)



<http://www.calstate.edu/accessibility/section508/standards/>.

b. Click the **Start Checking** button at the lower right corner to perform checking.

c. If Full check passes, you will receive a message congratulating you on your success. If Full check does not pass, you will receive an alert message with **Accessibility Report** displayed on the left panel of the form. Review the Accessibility Report and follow instructions to correct the problems.



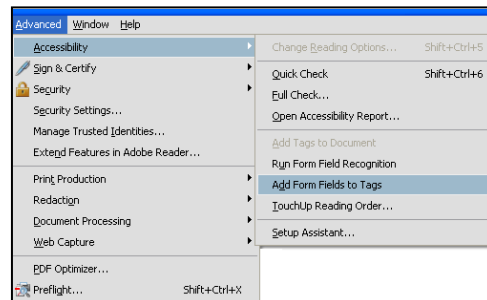
Repair Typical Accessible Form Problems

Some of the commonly known problems are listed below with instructions on how to fix them.

NOTE: There is **no Undo or Save** in the process of fixing **Touchup Reading Order**. Remember to close the Touchup Reading Order window and save your repair work.

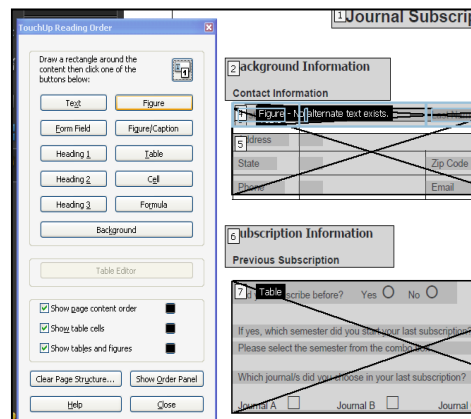
1. Missing tag

- Repeat step 2c on page 13. Or, go to **Advanced** menu and select **Accessibility**.
- Select the **Add Form Fields to Tag** option.
- Run the Accessibility Full Check to verify the problem is resolved.



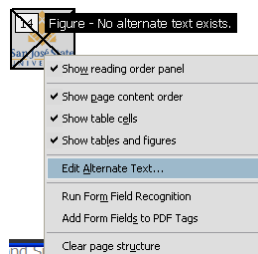
2. Wrong tag

- Go to **Advanced** menu and select **Accessibility** then **Touchup Reading Order**. The Touchup Reading Order window will appear.
- Your cursor becomes a cross-hair on your document. Drag an area to include the field object/s with the wrong Tag. All **Tag buttons** on the left of the **Touchup Reading Order window** become active.
- Click on the appropriate Tag for the selected item. Notice that your selected item will be tagged accordingly.
- Close the **Touchup Reading Order window** and save.
- Run the **Accessibility Full Check** to verify the problem is resolved.



3. Missing alternative text

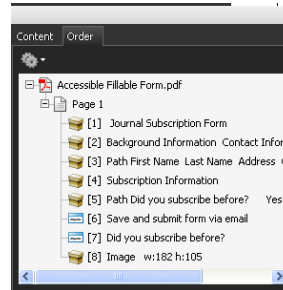
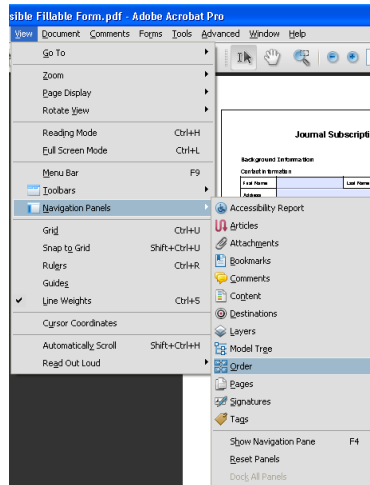
- Go to the **Advanced** menu and select **Accessibility** then **Touchup Reading Order**. The Touchup Reading Order window will appear. Elements of your documents appear highlighted with tags and reading order number.
- Right click on the object of "**Figure – No alternate text exists.**" and select **Edit Alternative Text**. An **Alternate Text** window will appear.



- Enter alternative text descriptions in the **Alternate Text** box and click **OK**.
- Close the **Touchup Reading Order window** and save.
- Run the **Accessibility Full Check** to verify the problem is resolved.

4. Wrong reading order or tab order

- a. Go to **View** menu and select **Navigation Panels** then **Order**. A floating **Order window** appears.



- b. Under the **Order** tab, click on the **Plus sign** next to the label to expand the list of reading order. The Plus sign will change to a **Minus sign**.
- c. Click and drag the **Box icon** up or down to correct the reading order. While dragging, you will see a black arrow followed by a horizontal line adhered to your cursor, indicating a possible location for insertion. Release and drop your dragged icon at that location. A tab number of the reading order for your selected item will be updated accordingly.
- d. Close the **Order window** and save.
- e. Run the **Accessibility Full Check** to verify the problem is resolved.