



ACCESSed
P R O J E C T

**In-line Equivalent Text (EqTD) AUDIT
Manual Version 1.3**

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BACKGROUND

Often, text and non-text are crucial to understanding the meaning of a sentence. Sometimes, these are not adequately translated by text-to-speech systems and do not provide users of assistive technology with the information that is available to sighted readers. For example, many Greek letters used in mathematics are simply ignored by assistive technology or are named as their Roman equivalent, changing “ α ” to “a.” Similarly, positional information such as superscript and subscripts are not announced ($a^2+b^2=c^2$).

When these elements are incorporated into the flow of a sentence, they must be accompanied by an EqTD that contains the words that would be used when reading the sentence aloud. Thus, if the document includes the equation $a^2 + b^2 = c^2$, the text alternative would be “aih squared plus bee squared equals sea squared.” When constructing a fully accessible document, in-line information should be supplied without any overt action on the part of the document reader. Use the In-Line EqTD AUDIT to evaluate the accessibility of positional (subscript/superscript), mathematical and non-English text in your documents.

Additionally, this AUDIT is applicable to in-line graphics, such as those produced by an Equation Editor. The output of Equation Editors is a picture rather than text. The author may not even be aware of the insertion of these pictures in the document. This can be done insidiously by image conversion tools producing graphics that look like text.

It may be very difficult to assess the presence of in-line EqTDs without simultaneously reading visually and listening with a screen reader to the document. Only then will the lack of EqTDs be obvious. This does not require a fully capable screen reader. Free, limited feature screen readers or text-to-speech engines may be adequate. However, it is important to determine that the reader used responds to text equivalents.

DIRECTIONS

To perform an AUDIT:

- Open the Excel file: click on “enable macros”.
- The AUDIT will open in “Page Break Preview” view. You may change to another view mode if you wish.
- Save your file with a new name.
- Identify the document for audit and clearly label it (along with your name and date) at the top of the worksheet by double clicking on “AUDIT Target”, “AUDIT Date”, and “Auditor” to enter data in these cells.

(The AUDIT Target, in this case, could be “Chem worksheet 3 2008-10-11)

You will need both the paper and electronic versions of the document.

- Print a copy of both the Accessibility and Usability worksheets,
(or, you may enter scores into the AUDIT directly on your computer).
- You may use the print features of Excel, or you may click on the buttons at the bottom of the page to print individual sheets or the entire workbook.
- Carefully evaluate the document.
- Score the AUDIT/enter data.
- You can move from sheet-to-sheet by using the buttons across the top or by clicking on the Excel worksheet tabs at the bottom.
- Examine and interpret the graphical data.
- Write comments about the route, or specific issues related to the In-line EqTD AUDIT, in the comments section.

For most AUDITs (e.g. doing an AUDIT of an architectural feature) it is easiest to print a paper copy of both the accessibility and usability worksheets. Take the paper copy to the location, score the items, and then transfer your scores to the computerized spreadsheet. Some AUDITs may be scored directly on the spreadsheet. The method you use depends on the item you are auditing and the computer you use.

The AUDITs are formatted in an Excel workbook with 3 spreadsheets. You may use arrow keys to facilitate the entering of data. Double click on the boxes where you will enter text (e.g. “Comments”, “Auditor”). The spreadsheets for both the accessibility and usability sections will tally the scores and provide a numerical score based on the percentage of possible points. Graphical data are presented on the 3rd sheet.

Trichotomous scoring (e.g. “Yes”, “Partial”, “No”) is used to rate each item in the AUDIT. The spreadsheet converts these to numerical scores.

- A **“Yes”** score indicates the item is present. This should not be selected if there is any doubt if the item is present.
- A **“Partial”** score indicates that the item is present to some extent. If the item is only present in some cases, or is present but not in an effective way, you mark “Partial”.
- A **“No”** score indicates that the specified item is not present. If a feature is present, but not readily “discoverable,” the typical user will not benefit from it. If you are not sure that an item is present, it should be marked “No.”
- **“NA”** will remove the item from scoring. This should only be used when a feature is not present in the document being audited. For example, in a document that doesn’t include any superscripts or subscripts, the items related to positional information would be NA.
- The accessibility scores compute the “demonstrated” levels of accessibility. Thus, items that are not scored are considered not to have been demonstrated. If you do not score all items the score will be lower because the spreadsheet will score the item as zero.

The Accessibility and Usability scores compute the “demonstrated” levels of accessibility and usability. Thus, items that are not scored are considered not to have been demonstrated. If you do not score all items the score will be lower because the spreadsheet will score the item as zero.

EXPLANATION OF IN-LINE EQUIVALENT AUDIT ITEMS

Accessibility Section 1, item 1: Each special character or character formatting in the document is accompanied by an EqTD providing the equivalent information.

- ✓ Characters such as “alpha” must include an in-line EqTD. Other examples include superscript and subscript positioning. To test this item, whenever a special character is included in a document, listen to the passage read by a screen reader, and assure that the special character or position is provided.

Accessibility Section 1, item 2: An EqTD is provided at the location of each in-line graphical element of the document. (Mathematical formulas and special symbols may occur within the structure of a paragraph and are graphic elements in terms of accessibility.)

- ✓ When a technical document includes mathematical formulas or special symbols listen carefully to the paragraph as read by a screen reader, and assure that the special symbols are announced properly.

Accessibility Section 2, item 1: Each EqTD contains only the information that a human reader would speak when encountering the symbol, e.g. "pi" rather than "the Greek letter pi".

- ✓ The EqTD substitution should result in a grammatically correct and pronounceable sentence.

Accessibility Section 2, item 2: Where the in-line element is decorative rather than informative, the EqTD is empty. (e.g. when a list is "decorated" by blue balls for bullets, the EqTD is "" rather than "blue ball").

- ✓ When a graphical element is included to create a visually attractive document, it is not needed to convey the meaning of the document. Providing information that cannot be ignored can disrupt the understanding of the overall document. If no EqTD is provided, most screen readers attempt to compensate for the lack by announcing “graphic” or the name and size of the graphic. Using a blank EqTD (alt=”) signals to the screen reader to ignore the graphic entirely.

AUDIT SCORE SHEET

The AUDIT summary graphs display the accessibility and usability scores for both parts of the AUDIT. The graphs help determine the perceived levels of accessibility and usability for the item under review based on the percentage of possible points. Behind the scenes a score of “Y” = 2 points, a score of “P” = 1 point and a score of “N” = 0 points. A score of “NA” removes the item from consideration, reducing the total number of possible points for the section of the AUDIT.

Accessibility interpretation: A one hundred percent score suggests full, basic access to people with disabilities. Any "no" or "partial" scores indicate that some people with disabilities will not be able to use the AUDIT target. They flag major problems.

Usability interpretation: The usability scores illustrate the "friendliness" of the AUDIT target. This usability affects all users, including people without disabilities, but difficulties are often amplified for people with disabilities. The higher the "yes" and "somewhat" scores, the more usable the AUDIT target is for everyone. "No" responses signify less access for everybody.

The score sheet “**comments**” section is provided for your notes and/or recommendations.

The ACCESS-ed Project considers all AUDITs to be live/working documents. Please share any comments, feedback or suggestions that you may have through the “Contact Us” feature of our website.

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