Alt-Text Guidance - Gaps Analysis (Exploring Tests and Methods)

Current WCAG 1.1.1 Techniques:

[Makoto]

- *H37: Using alt attributes on img elements*
- *H45: Using longdesc*
- *H30: Providing link text that describes the purpose of a link for anchor elements*
- *H2: Combining adjacent image and text links for the same resource*
- *H36: Using alt attributes on images used as submit buttons*
- *H24: Providing text alternatives for the area elements of image maps*
- *H67: Using null alt text and no title attribute on img elements for images that AT should ignore*
- *C9: Using CSS to include decorative images*
- *ARIA10: Using aria-labelledby to provide a text alternative for non-text content*
- *PDF1: Applying text alternatives to images with the Alt entry in PDF documents*

[TODD]

Gaps in Existing WCAG 1.1.1 Techniques/Tests

Global notes:

- **Technique examples**: Currently, the examples are text only. Each example describes the image appearance and purpose, rather than providing an actual image with the associated content (e.g., figure caption, body text with figure reference, etc.). This text-only approach can make it harder for developers viewing the Technique page to understand the image purpose and context. If the Technique page itself cannot support images and associated content as part of the examples, then it might be useful to link the text-only examples to more detailed examples that include actual images with associated content.

- **Test checks**: The test check items that relate to alt text *content* use general language (Is the alt text sufficient? Does the alt text serve the same purpose as the non-text content?). Terms such as “sufficient,” “equivalent,” and “same purpose” can mean different things to different people. Test checks related to alt text content should be supported by examples of model alt text accompanied by the described image with associated content and an explanation. This would be too cumbersome to include in the Test list. But could these examples be directly linked to the Test section?

Technique	Gap/Comments
C9: Using CSS to include decorative images	• No comment.
G73: Providing a long description in another location with a link to it that is immediately adjacent to the non-text content	• The Description section and Test Check #1 state that the link for the long description “can be immediately before or after the non-text content.” I assume “before” and “after” refer to reading order. If the link is before the image, the screen reader will voice it before the alt tag for the image, which will not make sense. • The Description section mentions “D-link.” It should state that the use of D-link is no longer best practice. The link to the long description should clearly specify the function of the link per H30, G91, etc. • Example 3 mentions using the figure caption as the link to the long description. Without a concrete, viewable example, a developer might set an entire lengthy figure caption as a link, which would be user-unfriendly. I would not recommend this approach. • The Test should check that the text for the long description link specifies its function.
G74: Providing a long description in text near the non-text content, with a reference to the location of the long description in the short description	• The Description section could mention that many screen reader users tend not to prefer this method of presenting the long description because the long description is included in the main content of the page and thus unavoidable (as opposed to being accessed via a selectable link).

G82: Providing a text alternative that identifies the purpose of the non-text content	• The Description section should specify that the alt text should describe the operation, meaning, and results of an interactive animation when the user requires this information to understand a concept or complete a task. The fact that the screen reader user cannot operate the interactive does not mean that a brief summary of the interactive's function is sufficient. Example 1: An online materials science course includes an interactive that allows the user to rotate and expand a 3D machine part in space. The user manipulates the machine part to identify patterns of metal fracturing. Example 2: An interactive graph is plotted using values that can be adjusted in increments of 0.1. There are too many possible outcomes to individually tag or to list in a single long description. But the alt text should still summarize how the graph tends to change as the user adjusts the values in one direction or another. • Example 1 actually contains 2 examples.
G92: Providing long description for non-text content that serves the same purpose and presents the same information	• The description design for Example 1 could be modified. It lists the data *before* the sentence that explains the data is listed in descending order to show leaders. The explanatory sentence should be read before the data list, so that the listener does not need to mentally backtrack. • Example 2 should include the actual long description data table. Generally, if a long description contains a data table or list, it should also contain an introductory sentence that explains the purpose and contents of that structured element.

G94: Providing short text alternative for non-text content that serves the same purpose and presents the same information as the non-text content	• The Description section provides a solid general overview of the purpose of alt text and how to create it. But it assumes that alt text will only be accessed by screen reader users (i.e., The alt text replaces the non-text visual content, rather than supporting it, as would be the case for users with low vision and cognitive disabilities).
G196: Using a text alternative on one item within a group of images that describes all items in the group	• The Description section might mention that capturing the group of images as a single item is an alternative to tagging only one image with the description for the group.
H2: Combining adjacent image and text links for the same resource	• No comment
H24: Providing text alternatives for the area elements of image maps	• The Description section should also mention that the entire image map should have alt text that provides an overview of the map, its purpose, and the fact that it contains selectable regions or links. • The Test should include an additional check related to Bullet 1.
H30: Providing link text that describes the purpose of a link for anchor elements	• No comment.
H35: Providing text alternatives on applet elements	• No comment.
H36: Using alt attributes on images used as submit buttons	• No comment.

H37: Using alt attributes on img elements	• The Description section states that the alt tag is "short," without specifying an ideal length. If we added a character limit, would that be too prescriptive? • The Description section does not directly reference the option and purpose of the long description (H45).
H45: Using longdesc	• The Description section does not specify that, when the alt text includes a long description, the alt tag should preview or summarize the contents of the long description. • In Example 1, the alt tag ("a complex chart") is too general to be useful for the screen reader user.
H67: Using null alt text and no title attribute on img elements for images that AT should ignore.	• Test Check #1 advises to check that the title attribute is either empty or missing, but the Description section and Example do not explain why this is necessary.
ARIA10: Using aria-labelledby to provide a text alternative for non-text content	• Should this guidance be included as a related technique for G74? If the long description content appears on the page, it seems that aria-labelledby could be used instead of an alt tag that identifies the location of the long description. But the drawback of this approach would be that the long description would automatically be expressed by the screen reader, whether the user wanted to listen to it or not. (Caveat: I'm not a coder.)
PDF1: Applying text alternatives to images with the Alt entry in PDF documents	• The title of this technique references PDFs, but the content also mentions alt text insertion in Word. The title should include that info. • It would make sense to include PPT guidance in this technique. • The Examples do not use the most recent versions of Acrobat/Word. • The alt text in the Examples is not ideal (e.g., lack of articles and capitalization, use of "-ing" word instead of a verb ending in "s.").

	• This technique should specifically address math equations, which also require alt text in PDFs and Word.

More alt-text tests and methods (within W3C or externally):

Larger W3C discussions re: alt-text - anything to bring in (Makoto)

- HTML spec https://html.spec.whatwg.org/multipage/images.html#alt
- Easy Checks https://www.w3.org/WAI/test-evaluate/preliminary/#images
- ALT decision tree https://www.w3.org/WAI/tutorials/images/decision-tree/
- Tutorials https://www.w3.org/WAI/tutorials/images/

The WAI's Alt Decision Tree describes how to use the alt attribute of the image element (<image>) in various situations. For some types of images, there are alternative approaches, such as using CSS background images for decorative images or web fonts instead of images of text.

https://www.w3.org/WAI/tutorials/images/decision-tree/

Review the techniques for providing helpful alternative text:
https://dev.w3.org/html5/alt-techniques/developer.html

[Makoto] - HTML standard: https://html.spec.whatwg.org/#alt

https://docs.google.com/document/d/1IK83Gfxz01zFWgNtaCWCL0LeBqhu9DudyWp_IwovWc0/edit#heading=h.gbpelxi718we

Problems when implementing or auditing 1.1.1:

E.g. grey areas, false passes, false fails
E.g. gaps in addressing failure to provide equivalent, high quality alt-text
E.g. gaps in addressing the needs of some users such as those with low vision or cognitive disabilities, or areas where there are conflicting needs between different types of users
E.g. gaps in function with specific or common technology or emerging technologies
E.g. parts that should maybe be out of scope, parts where scope could be expanded

[Makoto's memo]
Examples of grey areas on SC 1.1.1 to be considered in Silver.
Example 1: Image of text.
Link image reads "About Silver" plus small text reads "click here".
Alt text reads "About Silver". Is it sufficient? Should it be "About Silver click here" ?

Makoto thinks it should be “About Silver click here”. Alt text should be what sighted users can read/see on the image (without exaggeration and without omission).

[Todd]
Example: Image of text (pure text figures)
GREY AREA/GAP: For pure-text figures, should the alt text always reproduce the in-image text verbatim? The verbatim approach can unnecessarily increase the cognitive load on the user. Example 1: An accounting book might include a screenshot of an entire page from a tax return, but the image caption only references a 2-line section from that page. If we describe the entire page verbatim, the student will need to listen to a lot of "unnecessary" detail in order to learn about the referenced section. Example 2: Software manuals often include text-heavy screenshots of windows or dialog boxes with labels, but these images accompany step-by-step walkthroughs in the text. In such cases, describing the in-image text verbatim could repeat info at best and confuse the student at worst.

Example 2: Photograph
The image is a photograph.
ALT text reads “Photo of ……” Should ALT text describe it is a photo by saying “Photo of”? Makoto would recommend to use “Photo of” so that users who are blind can understand there is a photo on the web page at least.

[Todd]
GREY AREA/GAP: Should the alt text always start by identifying the image type?

Most guidance I have reviewed states that the alt text should only identify the image type (photo, illustration, map, diagram) if it is relevant to how the listener will understand the description. In many cases, the image type is not relevant. For example, a photo and line art can both show a man walking a dog. If the image isn't intended to demonstrate a concept in photography or drawing, then the image type isn't relevant. The alt text can just read, "A man walks a dog."

For listeners, the screen reader will announce the image as a "graphic" or “image” before reading the alt text. Common technology users will know the alt text refers to an image because they will intentionally select it. So, there is no need to identify the image type, just so that the user knows an image is present.

Of course, there are alternative views. One view states that identifying the image type is important, so that the listener is prepared if the teacher identifies the image type in a classroom context (e.g., "Let's look at the photo on page 11."). Also, identifying the image type could be useful for common technology users with low vision (e.g., Identifying an image as a photo, rather than line art, might help them more easily make sense of what they are seeing).

Example 3: Photo of world leaders
Alt-text reads: President X of Country X shake hands with Prime Minister Y of country Y at the Z international summit meeting.

For instance, should ALT text describe the expression of the people in the photo? with “a stern look” or “a smile”?

[Todd]
GREY AREA/GAP: How much should the alt text interpret the image by including "subjective" descriptors or assumptions? Does this depend on the target user?

Makoto's query relates to the biggest challenge with developing testing standards for alt text. Different users will benefit most from different kinds of descriptions based on needs, preferences, and goals. If the expressions of the world leaders were intended to communicate the mood of peace talks, then a user who has difficulty reading affect might benefit from alt text that assigns emotions to the leaders' expressions. On the other hand, a screen reader user who can more easily read emotions could deduce the mood based on their expressions alone, with the need for additional explanation.

[Cybele, Todd, Jenn] The example of two world leaders shaking hands may need additional information if there is a strong emotion being presented.

[Todd] The decision to add this information also depends on whether this is included in the content surrounding the image.

[Jenn] what constitutes a failure of this alt text when tested? Meaning, if the emotion isn’t included in the description and the emotion is relevant to the story / content, is this is a failure?

Example 4: Decorative image (photo or illustration)
If ALT text is null, it would be okay to pass SC 1.1.1 in WCAG 2. However some users want to have brief description even if it is a decorative image. Especially in case they used to be able to see and lost their eyesights afterward.

[Todd]
GREY AREA/GAP: Does the concept of a "decorative" or "nonessential" image exist once we start considering users with low vision, cognitive disabilities, and recent vision loss?

If someone knows an image is there, but is uncertain what it represents, then it should get some kind of description.

There is so much variation in how users feel about this type of image, even within groups who have similar needs or interact with content in similar ways. I'm not sure how we formalize this.

Example 5: Complicated chart / figure / illustration (which needs longer ALT text)
If an author writes appropriate ALT text for the image to present equivalent content with the image, ALT text will become longer. Long ALT text can be difficult for screen reader users to understand the content.

[Todd]

GREY AREA/GAP: Does an extremely long alt tag actually make the image accessible? If not, what is a reasonable character limit?

The alt tag is is block of plain text that is automatically expressed by the screen reader. The screen reader users cannot easily use keyboard navigation or other means to advance through the description content. The user must either start at the beginning and listen until he/she comes to the desired info or randomly advance. This puts an undue cognitive load on the user and increases the likelihood that the user will become confused or discouraged and give up.

Insight from problems:

I.e. how can current alt-text tests and guidance be improved to address some of those gaps (should there be a new test, should a technique be more specific)?

[Todd]

- Technique Descriptions should identify how alt text purpose and requirements differ based on the target user (screen reader user, common technology user with low vision or cognitive disabilities, user with recent vision loss, etc.).
- Technique Examples should include actual images with associated content for context, or they should be directly linked to more detailed examples with images.
- Technique Test Checks for alt text content should be directly linked to more detailed guidance illustrated by concrete examples.
- Technique Tests should include more than one Check for alt text content, based on different user needs (screen reader user, common technology user with low vision or cognitive disabilities, user with recent vision loss, etc.).
- Merge all Techniques related to long descriptions (Too complicated?).
- Possible tests for alt text content:
    - **Task completion**:
        - Can the user complete the task after accessing the alt text?
        - How many times must the user listen to or view the alt text before completing the task?
        - Was all of the information in the alt text relevant to completing the task? Or did the description contain info the user didn't need? (rating scale)
    - **Listen and explain**: (1) Tester 1 listens to the alt text without viewing the image. (2) Tester 2 views the image without reading the alt text. (3) Tester 1 explains the pictured process or relationship to Tester 2. (4) Tester 2 rates how closely Tester 1's explanation agrees with what he/she sees.
    - **Rubric** (for formalized image types such as graphs): (1) Does the description include certain types of info: relationship graphed, graph shape/trend, data points (depending on image purpose).

- This is harder to generalize because the same type of image can serve many different purposes based on its relationship to the surrounding content, audience, etc.

What gaps remain, even after fixing methods and tests?

(i.e. areas that may need development of new tests and methods, for new test strategy)

[Todd]
Divergent requirements based on user needs and preferences: users with severe vision loss from birth (no sight experience), recent vision loss, low vision, cognitive disabilities, multiple disabilities, varied subject area experience, etc.

What tabs should each test and method go in?

E.g. consider roles and responsibilities
Copy current and suggested new tests and methods into sections for each heading

Tests and Methods for Plan Tab

Tests and Methods for Design Tab

Tests and Methods for Write Tab

Tests and Methods for Develop Tab

What else could be included in each tab?

E.g. best practices
E.g. tips and instructional videos
E.g. other