

Guideline

2.2.1 Text appearance

Users can read visually rendered text.

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User Needs (Informative)

- As a [user with low vision](#):
 - I need a minimum level of contrast to read text (sufficient for some people).
 - I need a dark background and moderately light text in order to keep the glare down.
 - I need a light background and dark text in order to get maximum brightness.
 - I need to be able to choose the background color and the text color from the full available color spectrum.
 - I need the text size (font size) to be large enough for all text, up to 1000% of the default body size.
 - I need to be able to differentiate types of text when text is zoomed, such as heading levels and lists. (Large headings may already be more than 200% of the body size of text. Requiring all text to scale by the same value may not be practical or helpful.) Either text needs to scale in proportion so relationships can

- still be determined, or there is another mechanism to differentiate the types of text (e.g. solid-colored indentation for lower heading levels).
- When text is zoomed, I still need to be able to use the entire interface.
 - I need to be able to adjust **blocks** of text by:
 - reducing the width of text blocks to fit more into my visual field, especially if I have tunnel vision,
 - changing font-face to one I find more readable,
 - removing italics to make the text more readable,
 - removing underlines (except for links) to make the text more readable,
 - removing all-caps to make the text more readable,
 - adding auto-hyphenation to improve wrapping when zoomed,
 - adding bold styling to make the text more readable,
 - changing (usually increasing) letter spacing,
 - changing (usually increasing) line-spacing,
 - changing (usually increasing) word-spacing,
 - changing the text-justification, such as changing to left-aligned,
 - adjusting the spacing around blocks of text (e.g. adding margin to make it easier to read a column, or less margin if zoomed in a lot).
 - I need print-outs of the content with my preferences in place, so the printed output honors my preferences for text appearance.
- As a user who has challenges with reading, attention, or memory:
 - I need to focus on the blocks of text and not be distracted by “busy” background designs.
 - I need margins (blank space) and borders (including color, width, style) around blocks of text to help me understand how the text is organized.
 - I need to be able to adjust **blocks** of text by:
 - changing multiple columns of text into one continuous block
 - reducing the width of text blocks to help me focus on each line. Wider text blocks are harder for me to read than narrower blocks.
 - changing font-face to one I find more readable. Ideally, I’d like to be able to choose from a wide range of fonts including sans serif and serif font.
 - reducing the use of styling to emphasize text (italics, bold, underlining). Overuse of text styling can make the blocks of text harder to read.
 - using capitalization in a way that is easy for me to understand. Some styles, like all capital letters and small capital letters, can be harder for me to read. Ideally, I need sentence style or the ability to adjust the capitalization in blocks of text.
 - changing (usually increasing) letter spacing,
 - changing (usually increasing) line-spacing,
 - changing (usually increasing) word-spacing,
 - changing the text-justification, such as changing to only left-aligned. Centered text is often hard for me to read because it takes more effort for me to know where the next line of text will start.

- removing end-of-line hyphenation so I don't have to piece the words together

Applicability Guide

[\[See Applicability Guide Instructions\]](#)

Which foundational requirements apply?

For each word of text:

1. Is the text purely decorative or, is it not readable by anybody?
 1. Yes, Pass
 2. No, Continue
2. Does the default/authored presentation meet minimum requirements?
 1. Yes, the default/authored presentation meets Readable Blocks of Text (foundational) and Readable Text Style (foundational), Continue
 2. No, Fail
3. Can the text appearance be adjusted by the user without loss of content or functionality?
 1. Yes, text must be user-manipulable text and:
 1. The accessibility support set meets:
 1. Adjustable blocks of text
 2. Adjustable text style
 2. Pass
 2. Yes, via product-provided themes:
 1. Adjustable blocks of text
 2. Adjustable text style
 3. Pass
 3. No, and the product does not provide its own themes:
 1. Fail.

Foundational requirements

Blocks of text readable (minimum)

- needsAdditionalResearch: **true**
- status: **developing**
- type: **foundational**

Requirement: The default/authored presentation of blocks of text meets the corresponding values for the content's language, or, if the language is not listed in the table, of the language listed with the most similar orthography.

Except when: [N/A]

Editor's note

The metrics in the following table are still to be determined; the current content is an example.

Characteristic	Arabic	Chinese	English	Hindi	Russian
Inline margin					
Block margin			≥0.5em around paragraphs		
Line length			30-100 characters		
Line height			No less than 1 em and no more than the paragraph separation height		
Alignment			Flush left or fully justified		

Note

Readable blocks of text (foundational) and Readable text style (foundational) are based on common usage, and their supplemental counterparts are based on readability research. We need more readability research in these languages.

Methods & best practices

- (HTML) Use CSS to set the above attributes to within the designated values.
- ([Non-web app](#)) Use GUI toolkit to set the above attributes to within the designated values.
- **Best practice:** Use left-aligned (inline-start) text rather than justified text. (Justified text can makes reading harder by varying the amount of space between letters and words.)

Tests (Informative)

Procedure

For each block of text:

1. Check that the attributes of the block of text are within the attributes in the table for the closest language.

Expected results

- # 1 is true.

Tags

[Delete tags that do not apply]

Functional Performance

- Usage with limited vision
- Usage with limited cognition, language or learning

DAF

- Executive function
- Language
- Perception
- Visual

POUR

- Perceivable

Text style readable (minimum)

- needsAdditionalResearch: true
- status: developing
- type: foundational

Requirement: The default/authored presentation of [text](#) meets the corresponding values for the [content](#)'s language, or, if the language is not listed in the table, of the language listed with the most similar orthography.

Except when: [N/A]

Editor's note:

The metrics in the following table are still to be determined; the current content is an example. To make this requirement testable, phrases like "most text" needs to be defined, as noted in [Issue 475](#).

Characteristic	Arabic	Chinese	English	Hindi	Russian
Font face					
Font size			Vertical viewing angle of $\geq 0.2^\circ$ (~10pt at typical desktop viewing distances)		

Characteristic	Arabic	Chinese	English	Hindi	Russian
Font width					
Text decoration			Most text is not bold, italicized, and/or underlined		
Letter spacing					
Capitalization					
End-of-line hyphenation			Don't hard-code in the raw text.		

Note

Readable blocks of text (foundational) and Readable text style (foundational) are based on common usage, and their supplemental counterparts are based on readability research. We need more readability research in these languages.

Methods & best practices

- (HTML) Use CSS to set the above attributes to within the designated values.
- ([Non-web app](#)) Use GUI toolkit to set the above attributes to within the designated values.
- Best practice: Don't write in all caps or insert end-of-line hyphenation in raw text because the hard-coding can't be over-ridden.

Tests (Informative)

Procedure

For text within a block of text:

- Check that the attributes of the text are within the attributes in the table for the closest language.

Expected Results

- #1 is true.

Tags

Functional Performance

- Usage with limited vision
- Usage with limited cognition, language or learning

DAF

- Executive function
- Language
- Perception
- Visual

POUR

- Perceivable

Text contrast sufficient (minimum)

- needsAdditionalResearch: true
- status: developing
- type: foundational

Requirement: The default visual presentation of text meets [X contrast measure].

Applies when: Text is presented, including text embedded in an image format.

Except when the text is:

- also present elsewhere in the page/view which meets the requirement,
- part of an inactive Interactive element,
- pure decoration,
- not visible to anyone,
- part of a picture that contains significant other visual content,
- part of a logo or brand name.

Note:

Transparency can cause testing issues, but should be tested as the rendered color.

Editors' note:

The contrast algorithm used in WCAG 3 is yet to be determined. For this draft, the requirement assumes the algorithm will include a size/weight factor. If the algorithm does not include size/weight, it will need to be added to this requirement text.

A separate requirement may be needed if red/green color vision deficiency (CVD) is not accounted for within the contrast algorithm.

For this foundational level requirement, the default minimum contrast level should be roughly equivalent to the WCAG2 4.5:1 level for small/body text.

Methods & best practices

- **Method:** The text foreground and background is selected to meet the minimum contrast level.
- **Method:** Text placed over background images includes an opaque or semi-transparent background to meet the minimum contrast level.

- **Best-practice:** Text is not placed over multi-colors or gradient backgrounds.

Tests (Informative)

Procedure

For each foreground and background combination of text:

1. Identify the foreground color.
2. Identify the background color.
3. Check the contrast of text meets the [TBC algorithm].

Expected Results

#3 is true

Tags

Functional Performance

- Usage with limited vision
- Usage with limited cognition, language or learning

DAF

- Executive function
- Language
- Perception
- Visual

POUR

- Perceivable

Blocks of text adjustable

- needsAdditionalResearch: true
- status: developing
- type: foundational

Requirement: The presentation of [blocks of text] can be adjusted, without loss of content or functionality, to meet the corresponding values for the [content]'s language, or where that language is not listed in the table, for the language listed with the most similar orthography.

Note: The requirement is that the text is manipulable and the style attributes can be overridden.

Except when: The content is hard-coded (e.g., the raw text is capitalized or hyphenated).

Editor's note: The metrics in the following table are still to be determined; the current content is an example.

Characteristic	Arabic	Chinese	English	Hindi	Russian
Inline margin					
Block margin					
Line length					
Line height					
Justification			Default inline start to Left aligned		

Note

Readable blocks of text (foundational) and Readable text style (foundational) are based on common usage, and their supplemental counterparts are based on readability research. We need more readability research in these languages.

Methods & best practices

- **Method:** The [accessibility support set](#) includes a tool for adjusting the values of text, and the layout is tested to ensure compatibility (currently available in the WCAG3 default set).
- **Method:** Provide a mechanism to adjust the presentation of the 'Adjustable blocks of text' values, or include presentational themes which align with the edges of the 'Adjustable blocks of text' values.

Tests (Informative)

Procedure

For each block of text:

1. Apply the highest level of change of each attribute from the table, for that language/script.

2. Check that the text is changed by the override.

Expected Results

- #2 is true.

Tags

Functional Performance

- Usage with limited vision
- Usage with limited cognition, language or learning

DAF

- Executive function
- Language
- Perception
- Visual

POUR

- Perceivable

Text style adjustable

- needsAdditionalResearch: true
- status: developing
- type: foundational

Requirement: The presentation of each of the following font features can be adjusted, without loss of content or functionality, to meet the corresponding values for the content's language, or, if the language is not listed in the table, of the language listed with the most similar orthography.

Note: The requirement is that the text is manipulable and the style attributes can be overridden.

Except when: The content is hard-coded (e.g., the raw text is capitalized or hyphenated).

Characteristic	Arabic	Chinese	English	Hindi	Russian
Font face					
Font size			Vertical viewing angle of $\geq 0.24^\circ$ (~12pt at typical)		

Characteristic	Arabic	Chinese	English	Hindi	Russian
			desktop viewing distances)		
Font width					
Text decoration			<ul style="list-style-type: none"> • Most text is not bold, italicized, and/or underlined • Text is not bold and italicized at the same time • Underlines are only used for links 		
Letter spacing					
Capitalization		NA?			
Automatic end-of-line hyphenation		NA?	Disabled		

Note

Readable blocks of text (foundational) and Readable text style (foundational) are based on common usage, and their supplemental counterparts are based on readability research. We need more readability research in these languages.

Methods & best practices

- **Method:** The accessibility support set includes a tool for adjusting the values of text, and the layout is tested to ensure compatibility (currently available in the WCAG3 default set).

- **Method:** Provide a mechanism to adjust the presentation of the *Adjustable blocks of text* values, or include presentational themes which align with the edges of the *Adjustable blocks of text* values.
- **Best practice:** Don't write in all caps or insert end-of-line hyphenation in raw text because the hard-coding is more difficult to over-ride.

Tests (Informative)

Procedure

For each block of text:

1. Apply the highest level of change of each attribute from the table, for that language/script.
2. Check that the text is changed by the override.

Expected Results

- #2 is true.

Tags

Functional Performance

- Usage with limited vision
- Usage with limited cognition, language or learning

DAF

- Executive function
- Language
- Perception
- Visual

POUR

- Perceivable

Text size adjustable

- needsAdditionalResearch: false
- status: developing
- type: foundational | foundational

Requirement: Text can be increased in size to at least 200% of the platform's default body-text size.

Applicable when: Text is presented.

Except when:

- The same text is available elsewhere in the page/view which can be increased to at least 200% of the platform's default body-text size.

Methods & best practices

- **Method (HTML):** Text can be resized by browser-zoom to at least 32px (which is 200% of the web-platform default of 16px).
- **Method (iOS):** Text can be resized to at least 34pt (which is 200% of the iOS default text size).
- **Best practice:** Include alternative visual indicators for relationships conveyed by text-size.
For example, if large headings become the same size when zoomed in, a coloured indent could be used to indicate level of heading.

Tests (Informative)

Procedure

For each piece of text:

1. Use each platform mechanism for increasing text size.
2. Check that at least one mechanism can achieve a 200% text-size increase.

Expected Results

- #2 is true.

Tags

Functional Performance

- Usage with limited vision
- Usage with limited cognition, language or learning

DAF

- Executive function
- Language
- Perception
- Visual

POUR

- Perceivable

Adjustable text colors

- needsAdditionalResearch: false
- status: developing

- type: foundational

Requirement: The foreground and background color of text can be adjusted without losing content or functionality.

Applicable when: Text is presented, including text embedded in an image format.

Except when the text is:

- also present elsewhere in the page/view which meets the requirement,
- part of an inactive Interactive element,
- pure decoration,
- not visible to anyone,
- part of a picture that contains significant other visual content,
- part of a logo.

Note

The requirement is that the text is manipulable and the colors can be overridden. That could be achieved by the user-agent (including operating system, browser and assistive technology), or provided by the content author.

Methods & best practices

- User-agent method: The accessibility support set includes a tool for overriding the authored colors, and testing is performed to ensure content & functionality is not lost when high-contrast colors are applied (currently available in the WCAG3 default set).
- Provide a theme-switch that allows users to specify foreground and background colors.

Tests (Informative)

Procedure

For each piece of text:

1. Adjust the foreground and background color to a high-contrast light-on-dark theme.
2. Check that content and functionality is not lost.
3. Adjust the foreground and background color to a high-contrast dark-on-light theme.
4. Check that content and functionality is not lost.

Expected Results

- #2 and #4 are true

Tags

Functional Performance

- Usage with limited vision
- Usage with limited cognition, language or learning

DAF

- Executive function
- Language
- Perception
- Visual

POUR

- Perceivable

~~Content and functionality not lost with text adjustment~~

~~**Applicable when:** [N/A]~~

~~**Requirement:** Content and functionality are not lost when the content is adjusted according to 'Adjustable blocks of text' and 'Adjustable text style.'~~

~~**Except when:** N/A~~

~~**Level:** Foundational~~

~~Methods & best practices~~

- ~~● (HTML) Use responsive layouts to ensure interactive components expand or reflow appropriately when text grows and avoid fixed height containers or absolute positioning that can cause clipping when text size increases.~~
- ~~● (PDF) Allow reflow mode and confirm it works correctly when text is resized. Avoid absolute positioning of text that prevents reflow.~~
- ~~● (epub) Use the default styling and allow the user agent to adjust text presentations.~~

Tests (Informative)

Procedure

- ~~1. Apply the maximum values for [Adjustable blocks of text](#) and [Adjustable text style](#).~~
- ~~2. Check that content is not lost.~~
- ~~3. Check that functionality can still be used.~~

Expected Results

- ~~#2 and #3 are true.~~

Tags

Functional Performance

- ~~Usage with limited vision~~
- ~~Usage with limited cognition, language or learning~~

DAF

- ~~Executive function~~
- ~~Language~~
- ~~Perception~~
- ~~Visual~~

POUR

- ~~Perceivable~~

Supplemental requirements

Blocks of text readable (enhanced)

- needsAdditionalResearch: true
- status: developing
- type: supplemental

Requirement: The default/authored presentation of blocks of text meets the corresponding values for the content's language, or, if the language is not listed in the table, of the language listed with the most similar orthography.

Except when: [N/A]

Editor's note: The metrics in the following table are still to be determined; the current content is an example.

Characteristic	Arabic	Chinese	English	Hindi	Russian
Inline margin					
Block margin					
Line length					

Characteristic	Arabic	Chinese	English	Hindi	Russian
Line height					
Justification			Left aligned		

Note

Readable blocks of text (foundational) and Readable text style (foundational) are based on common usage, and their supplemental counterparts are based on readability research. We need more readability research in these languages.

Methods & best practices

- (HTML) Use CSS to set the above attributes to within the designated values.
- ([Non-web app](#)) Use GUI toolkit to set the above attributes to within the designated values.

Tests (Informative)

Procedure

For each block of text:

1. **HTML:** Check CSS to confirm that relevant style attributes (such as line height, letter spacing, word spacing, text align) are set within the designated values for the text's language.
2. **Non-web apps:** Check GUI toolkit settings (or defaults) to confirm that they apply values within the designated range.

Expected Results

- #1 or #2 is true

Tags

Functional Performance

- Usage with limited vision
- Usage with limited cognition, language or learning

DAF

- Executive function
- Language

- Perception
- Visual

POUR

- Perceivable

Text style readable (enhanced)

- needsAdditionalResearch: true
- status: developing
- type: supplemental

Applicable when: [N/A]

Requirement: The default/authored presentation of text meet the corresponding values for the content’s language, or, if the language is not listed in the table, of the language listed with the most similar orthography.

Except when: [N/A]

Editor’s note: The metrics in the following table are still to be determined; the current content is an example.

Characteristic	Arabic	Chinese	English	Hindi	Russian
Font face					
Font size			Vertical viewing angle of $\geq 0.24^\circ$ (~12pt at typical desktop viewing distances)		
Font width					
Text decoration			<ul style="list-style-type: none"> • Most text is not bold, italicized, and/or underlined • Text is not 		

Characteristic	Arabic	Chinese	English	Hindi	Russian
			bold and italicized at the same time • Underlines are only used for links		
Letter spacing					
Capitalization		NA?			
End-of-line hyphenation		NA?			

Note

Readable blocks of text (foundational) and Readable text style (foundational) are based on common usage, and their supplemental counterparts are based on readability research. We need more readability research in these languages.

Note

~~The requirement is that the text is manipulable and the style attributes can be overridden. Where the content is hard-coded (e.g. The raw text is capitalized or hyphenated), it does not fail if the style overriding does not work on that content.~~

Methods & best practices

- (HTML) Use CSS to set the above attributes to within the designated values.
- ([Non-web app](#)) Use GUI toolkit to set the above attributes to within the designated values.

Tests (Informative)

Procedure

For each block of text:

3. **HTML:** Check CSS to confirm that relevant style attributes (such as font size and letter spacing) are set within the designated values for the text's language.
4. **Non-web apps:** Check GUI toolkit settings (or defaults) to confirm that they apply values within the designated range.

Expected Results

- #1 or #2 is true

Tags

Functional Performance

- Usage with limited vision
- Usage with limited cognition, language or learning

DAF

- Executive function
- Language
- Perception
- Visual

POUR

- Perceivable

Text contrast (enhanced)

- needsAdditionalResearch: true
- status: developing
- type: supplemental

Requirement: The default visual presentation of text meets @@[X contrast measure, at a higher level than the minimum].

Applicable when: Text is presented, including text embedded in an image format.

Except when the text is:

- also present elsewhere in the page/view which meets the requirement,
- part of an inactive Interactive element,
- pure decoration,
- not visible to anyone,
- part of a picture that contains significant other visual content,
- part of a logo or ~~brand name~~.

Editor's note: The contrast algorithm used in WCAG 3 is yet to be determined. For this draft, the requirement assumes the algorithm will include a size/weight factor. If the algorithm does not include size/weight, it will need to be added to this requirement text.

For this supplemental level requirement, the default minimum contrast level should be roughly equivalent to the WCAG2 7:1 level for small/body text.

Methods & best practices

- **Method:** The text foreground and background is selected to meet the enhanced contrast level.
- **Method:** Text placed over background images includes an opaque or semi-transparent background to meet the enhanced contrast level.

Tests (Informative)

Procedure

For each foreground and background combination of text:

4. Identify the foreground color.
5. Identify the background color.
6. Check the contrast of text meets the [TBC algorithm].

Expected Results

#3 is true

Tags

Functional Performance

- Usage with limited vision
- Usage with limited cognition, language or learning

DAF

- Executive function
- Language
- Perception
- Visual

POUR

- Perceivable

Text customizations retained

- `needsAdditionalResearch`: false

- status: developing
- type: supplemental
- Formerly titled: Exported/saved/prints supports text-appearance customizations

Requirement: Content that is exported, saved, or printed retains any user-applied text-appearance customizations.

Applicable when: The page/view can be exported or printed option.

Except when: [N/A]

Methods & best practices

- **User-agent method:** The accessibility support set includes a tool for customising text and blocks of text, and testing is performed to ensure that those customisations are retained when exporting and printing (not currently available in the WCAG3 default set).
- **Platform:** Check that the platform supports exporting to an interoperable format while preserving the users' text-appearance customizations.
- **Method:** Provide a mechanism to export the current page/view including text customisations.

Note:

- Examples of interoperable formats include:
 - PDF
 - HTML
 - SVG
 - ODT
- Example of non-interoperable formats include:
 - [SNG](#)
 - DOCX, unless you know your audience has the required software (for example, you're writing internal documents for your company which provides employees with the necessary software)
 - Java object code

Tests (Informative)

Procedure

1. Customize [blocks of text](#) and [text style](#).
2. Export, save, and print the content.
3. Check that the customizations remain intact in the exported/saved/printed version. If there are multiple export options, check that at least one preserves the customizations.

Expected Results

- #3 is true.

Tags

Functional Performance

- Usage with limited vision
- Usage with limited cognition, language or learning

DAF

- Executive function
- Language
- Perception
- Visual

POUR

- Perceivable

Requirement Template

[Requirement short name]

When applicable:

Requirement: [Object(s)] is available/are available/verb like meets or remains/are not lost]

Except when:

- [Exception 1]
- [Exception 2]

[Notes]

Level: [Foundational or Supplemental]

Methods & best practices

- Method: [1-2 sentence description or a link to an example]
- Best Practice: [1-2 sentence description or a link to an example]

Tests (Informative)

[Provide at least 1 test]

[Generic Test Name]

Procedure

1. [First action]
2. [Second action]

Expected Results

- [# from Procedure] is true
- [# from Procedure] is false

[HTML Test Name if Desired]

Procedure

3. [First action]
4. [Second action]

Expected Results

- [# from Procedure] is true

- [# from Procedure] Is false

Tags

[Delete tags that do not apply]

Functional Performance

- Usage without vision
- Usage with limited vision
- Usage without perception of colour
- Usage without hearing
- Usage with limited hearing
- Usage with no or limited vocal capability
- Usage with limited manipulation or strength
- Usage with limited reach
- Minimize photosensitive seizure triggers
- Usage with limited cognition, language or learning
- Privacy

DAF

- Executive function
- Self regulation
- Reasoning
- Attention
- Knowledge
- Language
- Memory
- Perception Processing
- Mobility
- Multidimensional body movement
- Fine motor control
- Physical attributes
- Fitness
- Auditory Perception (includes auditory triggers)
- Tactile Perception (includes tactile triggers)
- Visual Perception (includes visual triggers)
- Other:

POUR

- Perceivable
- Operable
- Understandable
- Robust

Other

- Internationalization
- Possible Duplicate

Assertion Template

[Assertion short name]

[Assertion text. [Content Authors [process authors needs to be complete].]

Assertion Statement

Information that needs to be included

- Title, role or organization making the assertion
- Date of assertion
- [additional information such as number of people involved in user testing, date when training was conducted, etc.]

Example (Informative)

Recommended Documentation (Informative)

- [Optional documentation they may want to keep such as a versioned style guide]

Best Practice Template

[Best Practice Name]

[Best practice text. [Object(s)] is available/are available/verb like meets or remains/are not lost]

Description