

SageMath, Inc. Accessibility Conformance Report

WCAG Edition

(Based on VPAT® Version 2.5Rev)

Name of Product/Version: CoCalc

Report Date: December 2025

Product Description: Web Application

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Notes: We are aware of sufficiently many shortcomings to work on before engaging in more thorough testing.

Evaluation Methods Used: Answers are provided by a user very familiar with the system including some of its internal components, using also a sample of automatic scans of several pages.

Applicable Standards/Guidelines

This report covers the degree of conformance for the following accessibility standard/guidelines:

Standard/Guideline	Included In Report
Web Content Accessibility Guidelines 2.0	Level A (Yes) Level AA (Yes) Level AAA (Yes)
Web Content Accessibility Guidelines 2.1	Level A (Yes) Level AA (Yes) Level AAA (Yes)
Web Content Accessibility Guidelines 2.2	Level A (Yes) Level AA (Yes) Level AAA (Yes)

Terms

The terms used in the Conformance Level information are defined as follows:

- **Supports:** The functionality of the product has at least one method that meets the criterion without known defects or meets with equivalent facilitation.
- **Partially Supports:** Some functionality of the product does not meet the criterion.
- **Does Not Support:** The majority of product functionality does not meet the criterion.
- **Not Applicable:** The criterion is not relevant to the product.
- **Not Evaluated:** The product has not been evaluated against the criterion. This can only be used in WCAG Level AAA criteria.

WCAG 2.x Report

Note: When reporting on conformance with the WCAG 2.x Success Criteria, they are scoped for full pages, complete processes, and accessibility-supported ways of using technology as documented in the [WCAG 2.0 Conformance Requirements](#).

Table 1: Success Criteria, Level A

Notes:

Criteria	Conformance Level	Remarks and Explanations
<u>1.1.1 Non-text Content</u> (Level A)	Partially supports	While we are aware of the need to have alternative text throughout and have it in some places, the coverage is not uniform nor complete. We are working on gradually completing this coverage.
<u>1.2.1 Audio-only and Video-only (Prerecorded)</u> (Level A)	Not applicable	CoCalc platform itself does not include audio or video materials necessary for interaction.
<u>1.2.2 Captions (Prerecorded)</u> (Level A)	Not applicable	CoCalc platform itself does not include audio or video materials necessary for interaction.
<u>1.2.3 Audio Description or Media Alternative (Prerecorded)</u> (Level A)	Not applicable	CoCalc platform itself does not include audio or video materials necessary for interaction.
<u>1.3.1 Info and Relationships</u> (Level A)	Partially supports	
<u>1.3.2 Meaningful Sequence</u> (Level A)	Partially supports	
<u>1.3.3 Sensory Characteristics</u> (Level A)	Supports	Instructions provided for understanding and operating content do not rely solely on sensory characteristics of components such as shape, size, visual location, orientation, or sound.
<u>1.4.1 Use of Color</u> (Level A)	Partially supports	Hyperlinks in text may be identified by color only. Active project/file tabs are mostly indicated by the color of the tab and slight change in shape.
<u>1.4.2 Audio Control</u> (Level A)	Not applicable	CoCalc platform itself does not include audio or video materials necessary for interaction.
<u>2.1.1 Keyboard</u> (Level A)	Does not support	While some content and functionality are accessible using keyboard only, some important controls cannot be accessed and overall keyboard only interaction is likely impossible.
<u>2.1.2 No Keyboard Trap</u> (Level A)	Partially supports	Terminal traps keyboard
<u>2.1.4 Character Key Shortcuts</u> (Level A 2.1 and 2.2)	Supports	
<u>2.2.1 Timing Adjustable</u> (Level A)	Partially supports	Some system messages and warnings may disappear without explicit user interaction and this timing is not

Criteria	Conformance Level	Remarks and Explanations
		adjustable, hence it is possible that some users won't be able to read the message.
2.2.2 Pause, Stop, Hide (Level A)	Supports	There are some progress indicators, in particular for compute servers, that may change very quickly, but their purpose is to indicate the current state and relate the step where the problem occurred if it does not complete reasonably fast.
2.3.1 Three Flashes or Below Threshold (Level A)	Partially supports	It is possible for a rapid stream of error messages to appear on top of each other in some situations.
2.4.1 Bypass Blocks (Level A)	Does not support	Depends on sensible keyboard navigation.
2.4.2 Page Titled (Level A)	Supports	“In cases such as Single Page Applications (SPAs), where various distinct pages/views are all nominally served from the same URI and the content of the page is changed dynamically, the title of the page should also be changed dynamically to reflect the content or topic of the current view.”
2.4.3 Focus Order (Level A)	Does not support	Depends on sensible keyboard navigation.
2.4.4 Link Purpose (In Context) (Level A)	Supports	
2.5.1 Pointer Gestures (Level A 2.1 and 2.2)	Not applicable	CoCalc has no functionality depending on pointer gestures.
2.5.2 Pointer Cancellation (Level A 2.1 and 2.2)	Supports	
2.5.3 Label in Name (Level A 2.1 and 2.2)	Partially supports	
2.5.4 Motion Actuation (Level A 2.1 and 2.2)	Not applicable	CoCalc does not use motion actuation
3.1.1 Language of Page (Level A)	Partially supports	Some pages do not indicate the main language
3.2.1 On Focus (Level A)	Supports	“When any user interface component receives focus, it does not initiate a change of context.”
3.2.2 On Input (Level A)	Supports	“Changing the setting ... does not automatically cause a change of context unless the user has been advised of the behavior before using the component.”
3.2.6 Consistent Help (Level A 2.2 only)	Supports	“help mechanisms ... occur in the same order relative to other page content”

Criteria	Conformance Level	Remarks and Explanations
3.3.1 Error Identification (Level A)	Supports	"If an input error is automatically detected, the item that is in error is identified and the error is described to the user in text."
3.3.2 Labels or Instructions (Level A)	Partially supports	
3.3.7 Redundant Entry (Level A 2.2 only)	Supports	
4.1.1 Parsing (Level A) WCAG 2.0 and 2.1 – Always answer 'Supports' WCAG 2.2 (obsolete and removed) - Does not apply	Supports	For WCAG 2.0 and 2.1, the September 2023 errata update indicates this criterion is always supported. See the WCAG 2.0 Editorial Errata and the WCAG 2.1 Editorial Errata .
4.1.2 Name, Role, Value (Level A)	Partially supports	Work in progress to cover more elements.

Table 2: Success Criteria, Level AA

Notes:

Criteria	Conformance Level	Remarks and Explanations
1.2.4 Captions (Live) (Level AA)	Not applicable	CoCalc platform itself does not include audio or video materials necessary for interaction.
1.2.5 Audio Description (Prerecorded) (Level AA)	Not applicable	CoCalc platform itself does not include audio or video materials necessary for interaction.
1.3.4 Orientation (Level AA 2.1 and 2.2)	Supports	CoCalc adjusts to the orientation and window size.
1.3.5 Identify Input Purpose (Level AA 2.1 and 2.2)	Partially supports	
1.4.3 Contrast (Minimum) (Level AA)	Partially supports	Main elements do satisfy the contrast requirements, some secondary ones may still be too low.
1.4.4 Resize text (Level AA)	Supports	"text can be resized without assistive technology up to 200 percent without loss of content or functionality"
1.4.5 Images of Text (Level AA)	Supports	"text is used to convey information rather than images of text"
1.4.10 Reflow (Level AA 2.1 and 2.2)	Partially supports	CoCalc's default interface contains too many navigation elements and often several frames to avoid scrolling at 400%, but it is possible to close extra frames and hide many navigation elements. "Full screen button" does

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		most of that in one step, but the user can do some fine tuning as well.
1.4.11 Non-text Contrast (Level AA 2.1 and 2.2)	Partially supports	Some adjustment may be needed using scanners once text contrast is sufficient. WCAG has a lot of examples for this section.
1.4.12 Text Spacing (Level AA 2.1 and 2.2)	Partially supports	Some text on control elements may get cut off when increasing text spacing.
1.4.13 Content on Hover or Focus (Level AA 2.1 and 2.2)	Partially supports	Tooltips are usually not dismissible and may obscure surrounding content. However, it is possible to turn off tooltips for some buttons.
2.4.5 Multiple Ways (Level AA)	Supports	There are alternative ways to reach different pages or functionality.
2.4.6 Headings and Labels (Level AA)	Partially supports	We strive to “provide descriptive headings and labels,” but it is difficult to assess the success of it.
2.4.7 Focus Visible (Level AA)	Supports	
2.4.11 Focus Not Obscured (Minimum) (Level AA 2.2 only)	Supports	
2.5.7 Dragging Movements (Level AA 2.2 only)	Supports	“All functionality that uses a dragging movement for operation can be achieved by a single pointer without dragging, unless dragging is essential”
2.5.8 Target Size (Minimum) (Level AA 2.2 only)	Supports	“The size of the target for pointer inputs is at least 24 by 24 CSS pixels”
3.1.2 Language of Parts (Level AA)	Partially supports	“The human language of each passage or phrase in the content can be programmatically determined” It is possible to have all elements in English. If the user pick an interface translation, some elements may not be marked appropriately.
3.2.3 Consistent Navigation (Level AA)	Supports	“Navigational mechanisms that are repeated on multiple web pages ... occur in the same relative order”
3.2.4 Consistent Identification (Level AA)	Supports	“Components that have the same functionality ... are identified consistently.”

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3.3.3 Error Suggestion (Level AA)	Supports	"If an input error is automatically detected and suggestions for correction are known, then the suggestions are provided to the user"
3.3.4 Error Prevention (Legal, Financial, Data) (Level AA)	Supports	"Provide ways for users to confirm, correct, or reverse important submissions."
3.3.8 Accessible Authentication (Minimum) (Level AA 2.2 only)	Supports	CoCalc allows the use of password managers or SSO.
4.1.3 Status Messages (Level AA 2.1 and 2.2)	Does not support	"Let assistive technology notify users about status changes that don't take focus." The important changes are probably losing connection to the server and kernel crashes, things like RAM gauges should not attract attention on their own.

Table 3: Success Criteria, Level AAA

Notes:

Criteria	Conformance Level	Remarks and Explanations
1.2.6 Sign Language (Prerecorded) (Level AAA)	Not applicable	CoCalc platform itself does not include audio or video materials necessary for interaction.
1.2.7 Extended Audio Description (Prerecorded) (Level AAA)	Not applicable	CoCalc platform itself does not include audio or video materials necessary for interaction.
1.2.8 Media Alternative (Prerecorded) (Level AAA)	Not applicable	CoCalc platform itself does not include audio or video materials necessary for interaction.
1.2.9 Audio-only (Live) (Level AAA)	Not applicable	CoCalc platform itself does not include audio or video materials necessary for interaction.
1.3.6 Identify Purpose (Level AAA 2.1 and 2.2)	Partially supports	"In content implemented using markup languages, the purpose of user interface components, icons, and regions can be programmatically determined."
1.4.6 Contrast (Enhanced) (Level AAA)	Does not support	This is likely feasible only with a dedicated high contrast color scheme.
1.4.7 Low or No Background Audio (Level AAA)	Not applicable	CoCalc platform itself does not include audio or video materials necessary for interaction.

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1.4.8 Visual Presentation (Level AAA)	Partially supports	It is possible to use browser and internal zooming. The width of the window can be changed. Text is not justified. There is no internal support for user-selected colors, although there is support for the dark mode.
1.4.9 Images of Text (No Exception) (Level AAA)	Supports	“text is used to convey information rather than images of text”
2.1.3 Keyboard (No Exception) (Level AAA)	Does not support	
2.2.3 No Timing (Level AAA)	Supports	“Timing is not an essential part of the event or activity presented by the content”
2.2.4 Interruptions (Level AAA)	Supports	“Interruptions can be postponed or suppressed by the user, except interruptions involving an emergency.”
2.2.5 Re-authenticating (Level AAA)	Supports	“When an authenticated session expires, the user can continue the activity without loss of data after re-authenticating.”
2.2.6 Timeouts (Level AAA 2.1 and 2.2)	Supports	“Users do not lose data due to unknown timeouts.”
2.3.2 Three Flashes (Level AAA)	Partially supports	It is possible for a rapid stream of error messages to appear on top of each other in some situations.
2.3.3 Animation from Interactions (Level AAA 2.1 and 2.2)	Does not support	There are no controls to disable all interface animations.
2.4.8 Location (Level AAA)	Supports	The context of the current page is displayed by tabs at the top or on the left of the page.
2.4.9 Link Purpose (Link Only) (Level AAA)	Does not support	
2.4.10 Section Headings (Level AAA)	Supports	“Where content is organized in sections, provide section headings.”
2.4.12 Focus Not Obscured (Enhanced) (Level AAA 2.2 only)	Supports	
2.4.13 Focus Appearance (Level AAA 2.2 only)	Not evaluated	Difficult to assess, WCAG page has many examples.
2.5.5 Target Size (Level AAA 2.1 and 2.2)	Does not support	“Make custom targets at least 44 by 44 pixels.”
2.5.6 Concurrent Input Mechanisms (Level AAA 2.1 and 2.2)	Supports	“Do not prevent users from switching their mode of input.”
3.1.3 Unusual Words (Level AAA)	Does not support	“A mechanism is available for identifying specific definitions of words or phrases used in an unusual or

Criteria	Conformance Level	Remarks and Explanations
		restricted way, including idioms and jargon." – there is no such mechanism.
3.1.4 Abbreviations (Level AAA)	Does not support	"A mechanism for identifying the expanded form or meaning of abbreviations is available. " - there is no such mechanism.
3.1.5 Reading Level (Level AAA)	Does not support	There are no versions of text which are more easily understood.
3.1.6 Pronunciation (Level AAA)	Does not support	"A mechanism is available for identifying specific pronunciation of words where meaning of the words, in context, is ambiguous without knowing the pronunciation. " - there is no such mechanism.
3.2.5 Change on Request (Level AAA)	Supports	"Changes of context are initiated only by user request"
3.3.5 Help (Level AAA)	Supports	Various forms have help text that can be shown to describe the meaning of controls in detail.
3.3.6 Error Prevention (All) (Level AAA)	Supports	"Provide ways for users to confirm, correct, or reverse any submissions." – Actions like deleting an account require confirmations. Edits to files are reversible using TimeTravel or snapshots.
3.3.9 Accessible Authentication (Enhanced) (Level AAA 2.2 only)	Supports	CoCalc allows the use of password managers or SSO.

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