**Accessibility (A11y)** in the sense considered here refers to the design of products, devices, services, or environments so as to be usable by people with disabilities.

**Web accessibility** (Web a11y) means that websites, tools, and technologies are designed and developed so that people with disabilities can use them. More specifically, people can:

* perceive, understand, navigate, and interact with the Web
* contribute to the Web

**Disabilities**: Including accommodations for blindness and low vision, deafness and hearing loss, limited movement, speech disabilities, photosensitivity, and combinations of these, and some accommodation for learning disabilities and cognitive limitations.

**WCAG** [**4 principles**: perceivable, operable, understandable, and robust](https://www.w3.org/WAI/WCAG21/Understanding/intro#understanding-the-four-principles-of-accessibility) ( *可感知、可操作、可理解 和 健壮性* )

[**Web Content Accessibility Guidelines**](https://www.w3.org/WAI/intro/wcag) **(WCAG):** provides guidelines for creating accessible websites.

WCAG version:

1999-1.0 、 2008-2.0、2018-2.1  
1973-Section 508

**The details with success criteria checklist**:

1. [Checklist from The A11Y Project](https://a11yproject.com/checklist.html)
2. [W3C official website checklist](https://www.w3.org/WAI/WCAG21/quickref/)

[**ThoughtWorks Accessibility Guidelines**](https://docs.google.com/document/d/15VKQeczipTSaEc0g1am_iEnpJ3did0iGExRHAg400CM/edit#heading=h.mb6nabvrt9tl)

[**Web Accessibility Initiative - Accessible Rich Internet Applications**](https://www.w3.org/WAI/intro/aria) **(WAI - ARIA):** the Accessible Rich Internet Applications Suite, defines a way to make Web content and Web applications more accessible to people with disabilities. It especially helps with dynamic content and advanced user interface controls developed with Ajax, HTML, JavaScript, and related technologies.

[ARIA in HTML](https://www.w3.org/TR/html-aria/)

some amenities in our application that will allow it to be used by all users. The most important of them are as follows:

* The application should have keyboard equivalents for all mouse operations.
* Tabs must be ordered logically to ensure smooth navigation.
* Shortcut keys need to be provided for menus.
* All labels in the application should be accurate and understandable.
* Colours in your applications need to be distinguishable for all users.
* Images and icons should be easily understood by all end users.
* The user should be able to adjust or disable flashing, rotating, or moving elements.

## **Development and Testing Tools：**

1. [Eslint-plugin-jsx-a11y](https://github.com/evcohen/eslint-plugin-jsx-a11y) : Lint tool in editor
2. [React-axe](https://github.com/dylanb/react-axe)
3. [The Accessibility Engine](https://www.deque.com/products/axe/) (Chrome plugin)
4. [Wave](https://chrome.google.com/webstore/detail/wave-evaluation-tool/jbbplnpkjmmeebjpijfedlgcdilocofh) (Chrome plugin)  
     
   Documentation:   
   <https://wave.webaim.org/>

\*The goal should not be to get rid of *all* icons, except for the errors which may represent an end user issue, but must be manually assessed. Other icons are presented to facilitate human analysis of accessibility and structure of the page.

1. [Pa11y](https://github.com/pa11y/pa11y) : CI/CD

### **Screen Readers:**

### Browser && tools list:

1. **Firefox**: [NonVisual Desktop Access](https://www.nvaccess.org/)  
   Refer to the following guides on how to best use NVDA:  
    - [WebAIM - Using NVDA to Evaluate Web Accessibility](https://webaim.org/articles/nvda/)  
    - [Deque - NVDA Keyboard Shortcuts](https://dequeuniversity.com/screenreaders/nvda-keyboard-shortcuts)
2. **Safari**: VoiceOver  
   Refer to the following guides on how to activate and use VoiceOver:

* [WebAIM - Using VoiceOver to Evaluate Web Accessibility](https://webaim.org/articles/voiceover/)
* [Deque - VoiceOver for OS X Keyboard Shortcuts](https://dequeuniversity.com/screenreaders/voiceover-keyboard-shortcuts)
* [Deque - VoiceOver for iOS Shortcuts](https://dequeuniversity.com/screenreaders/voiceover-ios-shortcuts)

1. **IE**: [Job Access With Speech](https://www.freedomscientific.com/Products/software/JAWS/) or JAWS  
   Refer to the following guides on how to best use JAWS:

* [WebAIM - Using JAWS to Evaluate Web Accessibility](https://webaim.org/articles/jaws/)
* [Deque - JAWS Keyboard Shortcuts](https://dequeuniversity.com/screenreaders/jaws-keyboard-shortcuts)

1. **Chrome:** [ChromeVox](https://chrome.google.com/webstore/detail/chromevox-classic-extensi/kgejglhpjiefppelpmljglcjbhoiplfn?hl=en)   
   Refer to the following guides on how best to use ChromeVox:

* [Google Chromebook Help - Use the Built-in Screen Reader](https://support.google.com/chromebook/answer/7031755?hl=en)
* [ChromeVox Classic Keyboard Shortcuts Reference](https://www.chromevox.com/keyboard_shortcuts.html)