Accessible Web Design

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What are we talking about with accessibility?

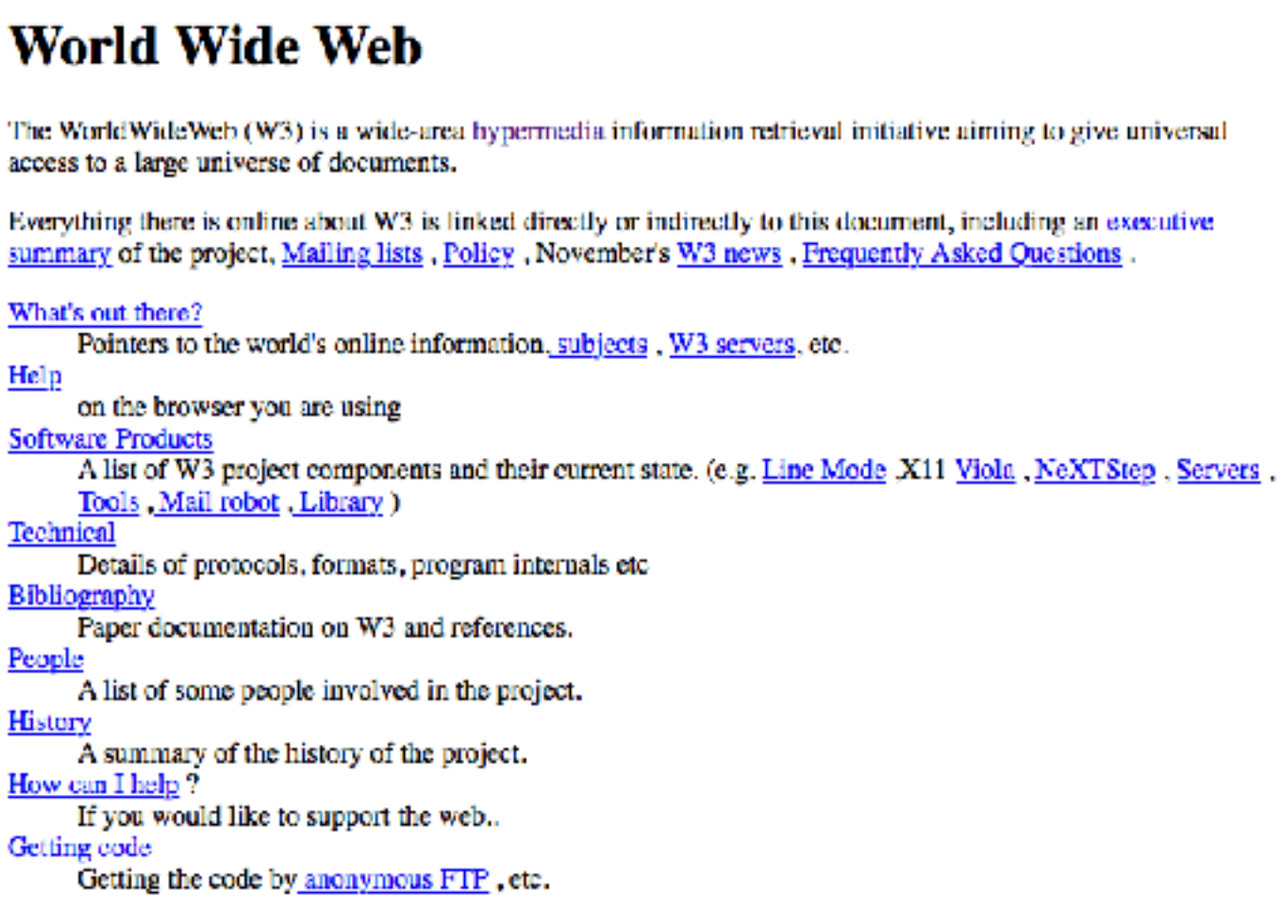
Motor skills
(keyboard only, non mouse users, pointing devices, one handed device use)

Color contrast
Color blindness, temporary vision loss, low light / bright light situations

No vision

Deaf / low hearing
Deaf users, hearing aid users, loud room situations

In the beginning, the web was accessible*



World Wide Web

The WorldWideWeb (W3) is a wide-area hypermedia information retrieval initiative aiming to give universal access to a large universe of documents.

Everything there is online about W3 is linked directly or indirectly to this document, including an executive summary of the project, Mailing lists , Policy , November's W3 news , Frequently Asked Questions .

What's out there?
Pointers to the world's online information, subjects , W3 servers, etc.
Help
on the browser you are using
Software Products
A list of W3 project components and their current state. (e.g. Line Mode X11 Viola , NeXTStep , Servers , Tools , Mail robot , Library)
Technical
Details of protocols, formats, program internals etc
Bibliography
Paper documentation on W3 and references.
People
A list of some people involved in the project.
History
A summary of the history of the project.
How can I help ?
If you would like to support the web..
Getting code
Getting the code by anonymous FTP , etc.

http://info.cern.ch/hypertext/WWW/TheProject.html

* The page is missing a language attribute, but hey, that wasn’t really a thing back then.

Then we messed it up.

Flash, table-based layout, text in images, videos the size of a postage stamp.

Some things got better.

Section 508

Section 508

of the Rehabilitation Act of 1973, as amended in 1998 (29 U.S.C. § 794 (d))

Section 508

In 1998, Congress amended the Rehabilitation Act of 1973 to **require Federal agencies to make their electronic and information technology (EIT) accessible to people with disabilities.** The law (29 U.S.C. § 794 (d)) applies to all Federal agencies when they develop, procure, maintain, or use electronic and information technology. Under Section 508, agencies must give disabled employees and members of the public access to information that is comparable to access available to others.

1.1 Do images that convey contextual content have equivalent alternative text specified in the alt attribute of the img element?

1.2 Do images that are purely decorative, and not contextual, have empty, or null, alternative text specified, e.g. alt=""?

1.3 Does the alternate text convey contextual relevance to the page it is on?

1.4 Do images that convey complex content have longdesc attributes or equivalent text content available elsewhere on the page?

1.5 Does text content contained in images disappear when images are not available, i.e. is there text contained in the images?

1.6 Do image map area elements have the link destination correctly titled? If the title attribute is used, it ought not to duplicate the alt text.

1.7 Do form non-text controls, e.g. input type image, provide a text alternative that identifies the purpose of the non-text control?

1.8 Do noframes elements have appropriate equivalent or alternative content for user agents that do not support frames?

2.1 Is a full text transcript provided for all prerecorded audio?

2.2 Is a full text transcript provided for all prerecorded video?

2.3 Are open or closed captions provided for all synchronized video?

2.4 Is fully synchronized text alternative or sound track provided for all video interaction that is not otherwise described?

4.2 With CSS disabled, are headings, paragraphs, and lists obvious and sensible?

4.3 With CSS disabled, does the order of the page content make sense as read?

4.4 With CSS disabled, is most text, other than logos and banners, rendered in text rather than images?

4.5 With CSS disabled, does any content that was invisible before stay invisible?

4.6 With CSS disabled, is any content or functionality provided by the CSS through mouse action also provided through keyboard-triggered event handlers?

4.7 When tables are used for layout, does the content linearize properly when layout tables are turned off?

5.1 Are links in server-side image maps repeated elsewhere in the page that are non-graphical, e.g. a normal list of links?

6.1 Are client-side image maps used instead of server-side image maps?

6.2 Do client-side image maps have appropriate alternative text for the image, as well as each hot spot region?

7.1 For tables containing data, do `th` elements appropriately define every row and/or every column headers?

7.2 For tables containing data, do `th` elements contain the scope attribute for row and/or column headers that are not logically placed, e.g. in the first row and first column as applicable?

7.3 For tables containing data, is the summary attribute used to explain the meaning of the table if it is not otherwise evident from context?

9.2 Does the page have equivalent content in a `noframes` element for user agents that do not support frames?

10.1 Does any page element NOT flicker at an unhealthy rate, e.g. less than three flashes per second?

10.2 Does any page NOT contain the `marquee` and `blink` elements?

11.1 Does a document have a text-only version? If so, does it meet all Section 508 criteria?

11.2 Does the text-only version contain the same exact information as the original document?

11.3 Does the text-only version provide the functionality equivalent to that of the original document?

11.4 Is an alternative provided for components, e.g. plug-ins & scripts, which are not directly accessible?

12.1 Is any content or functionality provided by JavaScript through mouse action also provided through keyboard-triggered event handlers?

12.2 Are link-type behaviors created with JavaScript on ONLY focusable elements?

12.3 If content or functionality provided by JavaScript can not be provided to assistive technology, is equivalent content or functionality provided without JavaScript?

13.1 Are links provided to any special readers or plug-ins that are required to interpret page content?

13.2 Do special readers or plug-ins comply with the requirements of Section 508 paragraphs §1194.21(a)-(l)?

14.1 Does each appropriate `input` element or form control have an associated and visible `label` element or `title` attribute?

14.5 Is placeholder text, if used, NOT redundant or distracting to users of assistive technology?

14.6 Do form error messages identify the error(s) to the user and describe them to the user in text?

15.1 If repetitive navigation links are at the beginning of the source of the HTML page, can a user navigate via a link, the “skip link”, at the top of each page directly to the main content area?

15.2 If a “skip link” is provided, does the anchor element contain text content that is visible with CSS disabled?

15.3 If a “skip link” is provided and it is hidden with CSS, is it available to users of assistive technology, e.g. not using the `display:none` method?

15.4 Can a user navigate over groups of links, between multiple groups of links, and between sections of the page content by means of section headings or visible and audible local links?

15.5 Are heading elements used to convey logical hierarchy and denote the beginning of each section of content?

16.1 Is enough time provided to allow users to read and interact with content?

16.2 Is the functionality of the content predictable, i.e. will a user experience contextual changes when unbeknownst to them?

16.3 Does the user have control over the timing of content changes?

16.4 If a page or application has a time limit, is the user given options to turn off, adjust, or extend that time limit?

16.5 Can automatically moving, blinking, or scrolling content that lasts longer than 3 seconds be paused, stopped, or hidden by the user?

16.6 Can automatically updating content be paused, stopped, or hidden by the user or the user can manually control the timing of the updates, e.g. automatically redirecting or refreshing a page, a news ticker, AJAX updated field, a notification alert, etcetera?

16.7 Can interruptions be postponed or suppressed by the user, e.g. alerts, page updates, etcetera?

16.8 If an authentication session expires, can the user re-authenticate and continue the activity without losing any data from the current page?

Some other things happened

Web Standards Project

The Web Standards Project is a grassroots coalition fighting for standards which ensure simple, affordable access to web technologies for all.

Search WaSP GO!

About | Learn | Action | Buzz | Press

Recent Buzz

Our Work Here is Done

By Aaron Gustafson | March 1st, 2013

Thanks to the hard work of countless WaSP members and supporters (like you), Tim Berners-Lee's vision of the web as an open, accessible, and universal community is largely the reality.

When The Web Standards Project (WaSP) formed in 1998, the web was the battleground in an ever-escalating war between two browser makers—Netscape and Microsoft—who were each taking turns "advancing" HTML to the point of collapse. You see, in an effort to one-up each other, the

Current WaSP Projects

InterAct: Web Standards Curriculum

InterAct is a living, open curriculum based upon web standards and best practices, designed to teach students the skills of the web professional.

InterAct Learning Tracks

The InterAct curriculum framework has 5 learning tracks. Adapt and reuse our resources. Contribute your own content and ideas.

Small Business Outreach

WaSP's Small Business Outreach Committee seeks to broaden the reach of web standards by informing small businesses about best practices in commissioning and building websites.

Small Business Update

A while back I announced WaSP's new small business outreach effort and, thanks to your help, we've been making great progress.

HTML

Some things got more complicated.

HTML, CSS, Javascript

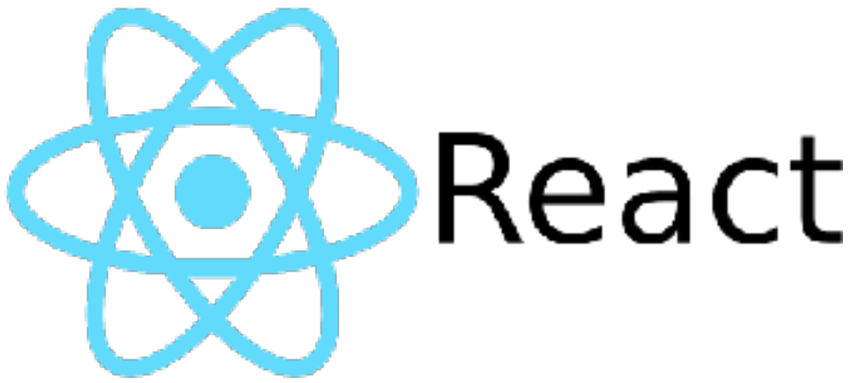
Javascript

CSS

HTML

Javascript everywhere

ANGULARJS
by Google


React

Fortunately, our tools for accessibility got better.

How to get started.

To do list

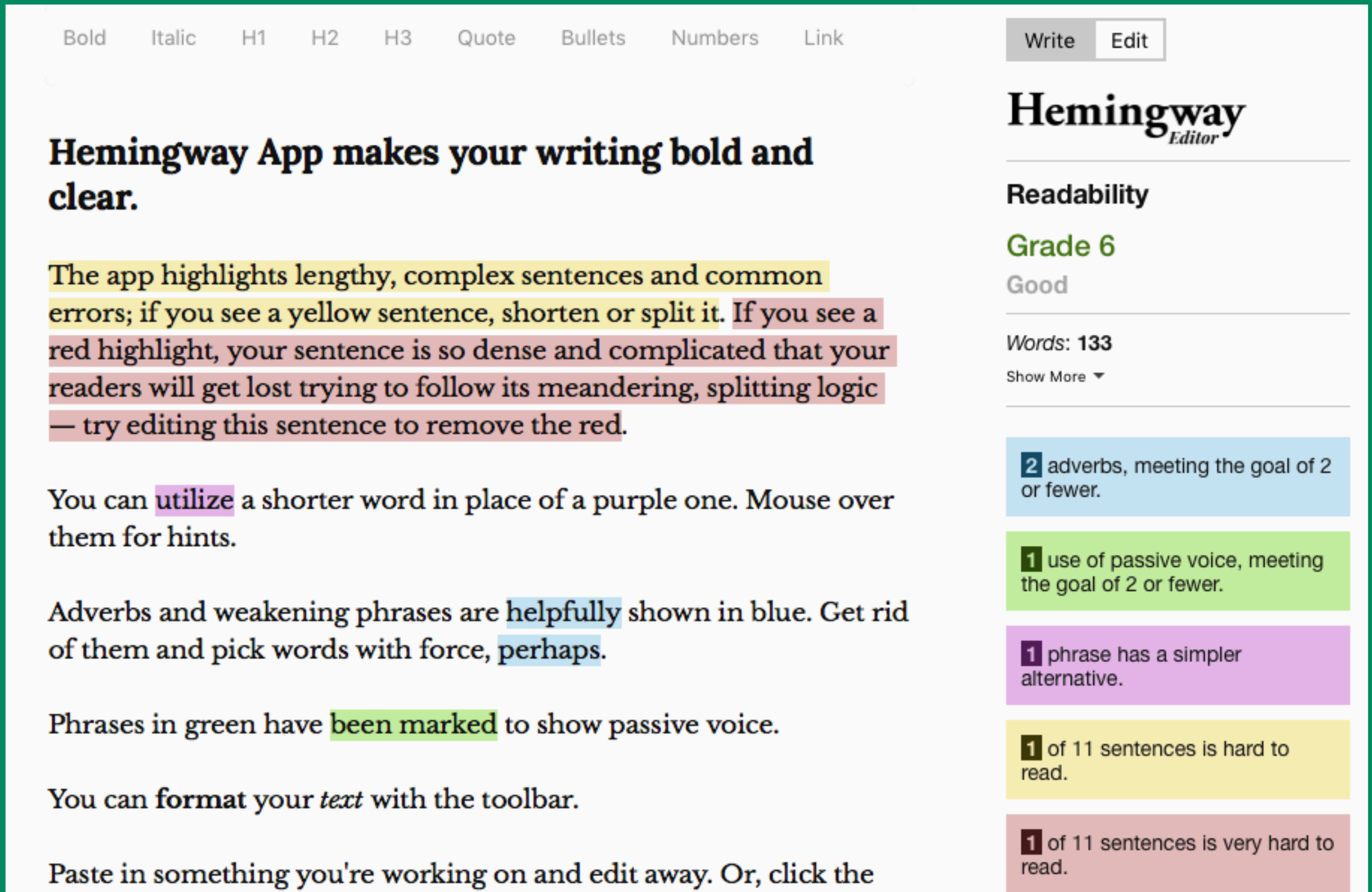
- Read a 508 checklist
- If you do one thing: use alt tags on your images
- Be careful with the HTML source order for your content
- Use HTML as your baseline whenever possible.
- Use accessible color schemes from the get-go
- Do not rely on color, imagery or icons as the sole way to convey meaning
- Use basic HTML elements as intended.
- Use HTML5
- Use ARIA (Accessible Rich Internet Applications)
- Use the USDS Web Standards as a starting point for your projects. (https://standards.usa.gov)

Use an automated testing tool

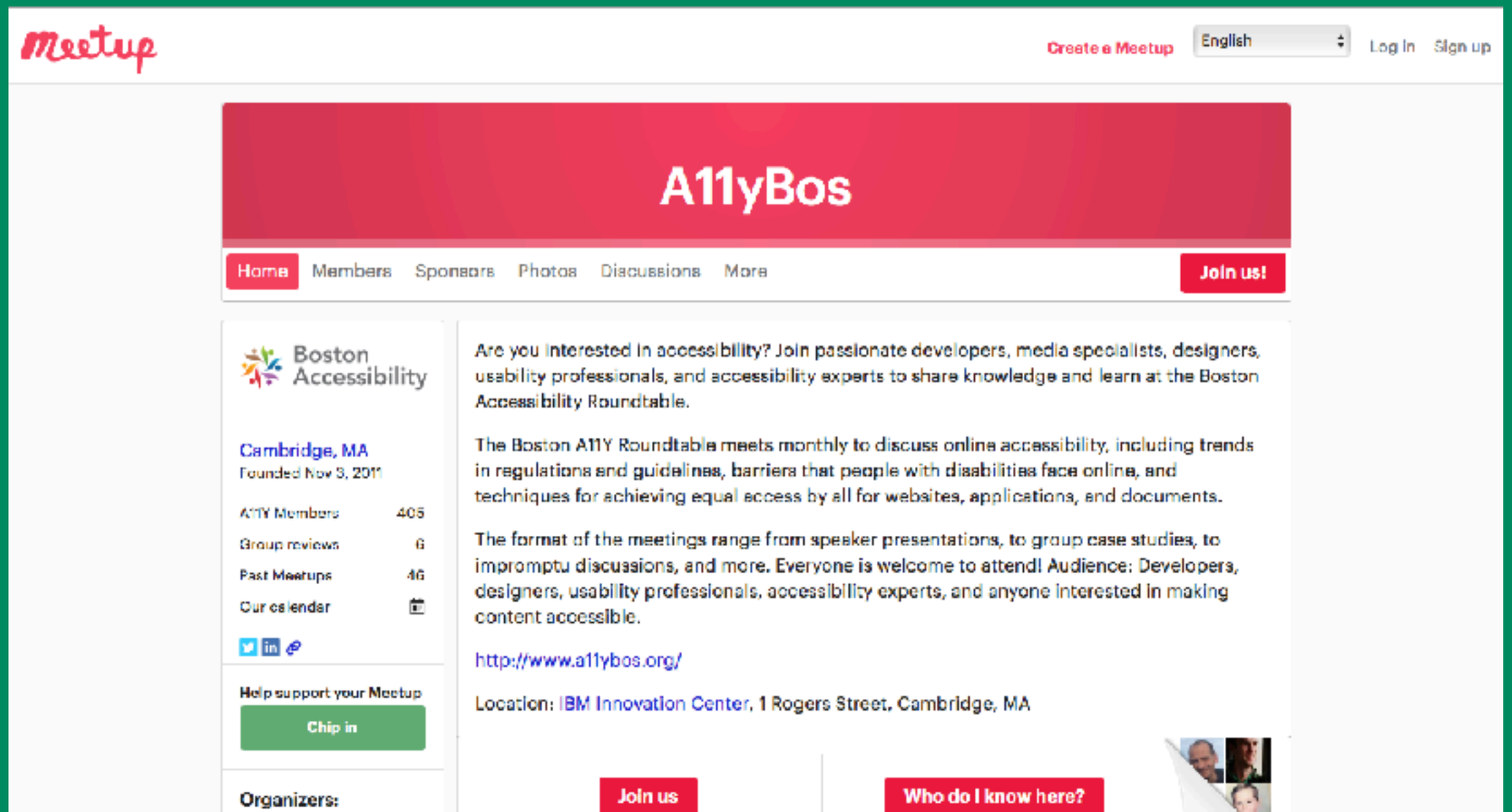
- WAVE accessibility tool
- Chrome Accessibility Dev Tools
- aXe Plugin
- Safari dev tools

Try your site out with a screen reader

Test your writing



If possible, find a way to test with real humans



Extra Credit

- **Learn about the revisions to Section 508 and WCAG 2**
  (set to be implemented in January 2018)

- **Consider multilingual solutions**

- **Consider bandwidth, page weight and performance**
  For rural, low bandwidth, lower income, or crisis situations.

Don’t wait until you are done building to think about accessibility.

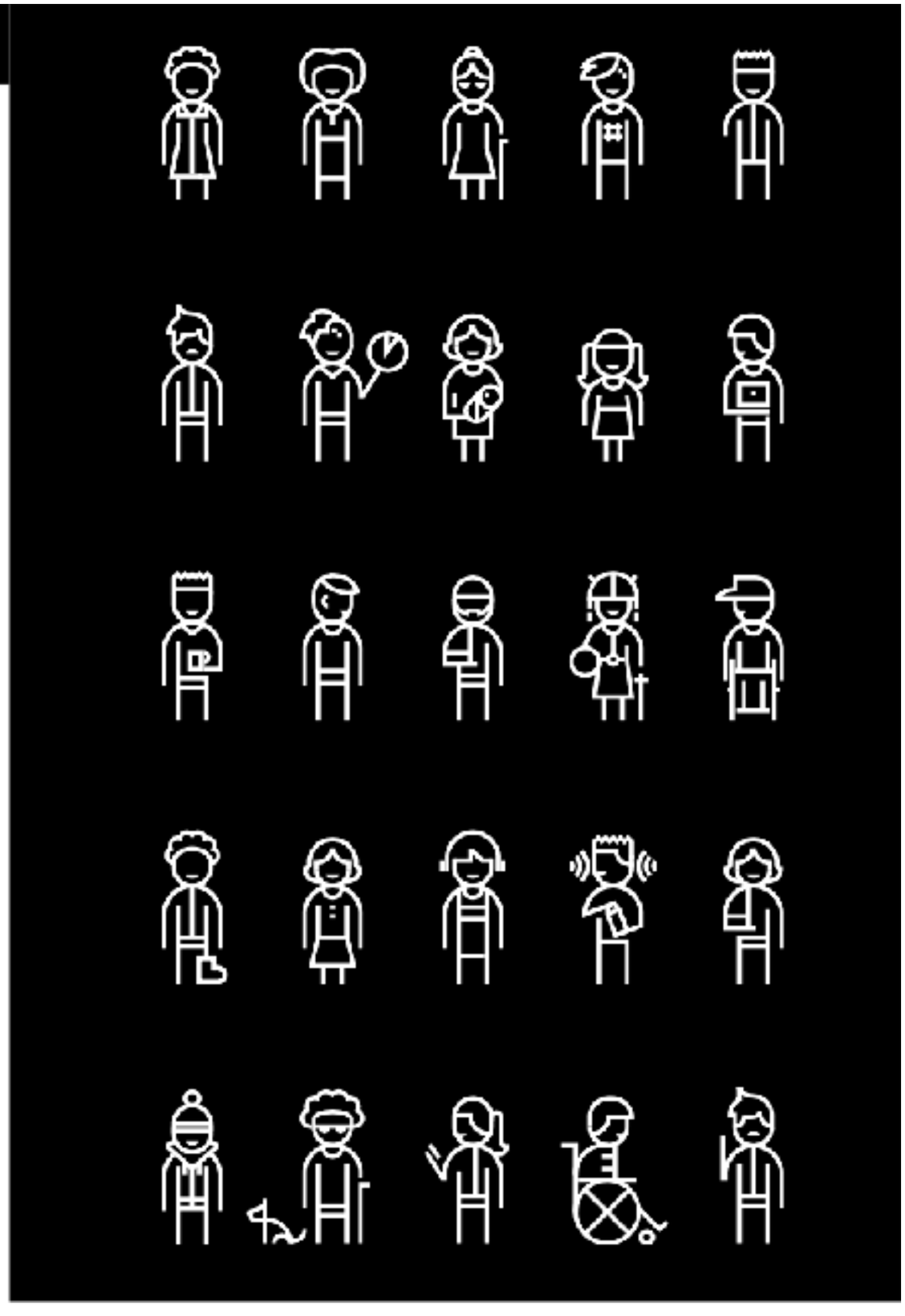
Realize that it’s always a work in progress.

Support Card | The Persona Spectrum

We use a Persona Spectrum to understand related limitations across a spectrum of permanent, temporary, and situational disabilities. It's a quick tool to help foster empathy and to show how a solution can scale to a broader audience.

	Permanent	Temporary	Situational
Touch	One arm	Arm injury	New parent
See	Blind	Cataract	Distracted driver
Hear	Deaf	Ear infection	Bartender
Speak	Non-verbal	Laryngitis	Heavy accent

Inclusive



Microsoft inclusive design toolkit
https://www.microsoft.com/en-us/design/inclusive

Question time

Practical ARIA examples
http://heydonworks.com/practical_aria_examples/#tab-interface

Mozilla Developer Network ARIA docs
https://developer.mozilla.org/en-US/docs/Web/Accessibility/ARIA

Microsoft inclusive design toolkit
https://www.microsoft.com/en-us/design/inclusive

WAVE by Webaim
http://wave.webaim.org

18F Accessibility Checklist
https://accessibility.18f.gov/checklist/

USDS Web Design Standards
https://standards.usa.gov

aXe Chrome Plugin

Google Lighthouse
https://developers.google.com/web/tools/lighthouse/

Accessibility Developer Tools