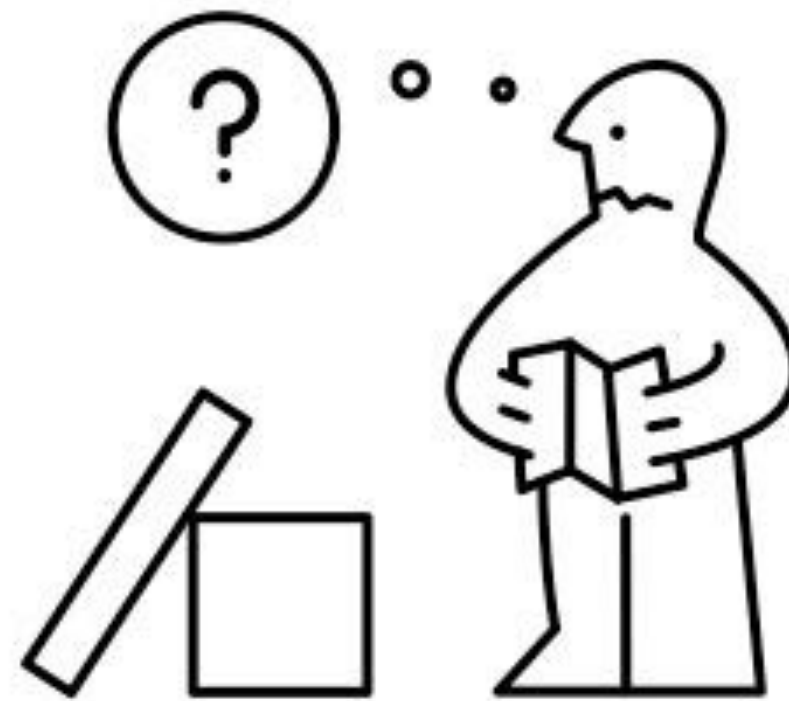# DESIGNING FOR DISABILITIES

WHAT IS ADA COMPLIANCE?

All electronic and information technology must be accessible to people with disabilities

Applies to commercial & public entities that have "places of public accommodation"

WCAG 2.0 compliance and Section 508 compliance are different. 508 is primarily for software & information technology

There is not really a "score", per se and no set legal threshold to meet

Compliance requires a party to make "reasonable efforts" as opposed to "best efforts"

(What can be done should be done, in the context and purpose of the contract, but without requiring a party to leave "no stone unturned")

A, AA, AAA

WCAG 2.0 has 3 levels that can be thought of as "Must / Should / May"

Advisable (not imperative) to comply with at least WCAG Level AA guidelines and Sec508 paragraphs (a) - (p) of Section 1194.22

Level AAA (advanced) compliance may be impossible for many

Checklists: W3C, W3C (b), GitHub, Lovata, InVision

PRINCIPLES OF ADA COMPLIANCE

PERCEIVABLE

Information being presented can't be invisible to all of their senses

OPERABLE

The interface cannot require interaction that a user cannot perform

UNDERSTANDABLE

The content or operation cannot be beyond their understanding

ROBUST

Users must be able to access the content as technologies advance

PERCEIVABLE

TEXT ALTERNATIVES

relevant non-textual, non-decorative content must have alt-tags that can be converted to speech

TIME-BASED MEDIA

Caption and/or transcripts of all pre-recorded video or audio content and provide a description of the video's contents

ADAPTABLE

Sounds and visual aspects such as shape, size, and location are never used as the sole means of conveying information.

DISTINGUISHABLE

Do not use color as the sole means of distinguishing info. Use contrast ratios of at least 3:1 (headlines) or 4.5:1 (body copy)

OPERABLE

KEYBOARD ACCESSIBLE

Functionality & navigation
should be accessible
through use of a keyboard

ENOUGH TIME

Avoid time limits for
visibility of content

SEIZURES

Avoid flashes and patterns.
Blinking can be no faster
than 3 times per second.

NAVIGABLE

Informative titles, headers,
and labels. If navigating by
keyboard, current focus in
highlighted

src: Bureau of Interactive Accessibility

UNDERSTANDABLE

READABLE

Language of layout is
defined (e.g; HTML lang
attribute)

PREDICTABLE

Operate in familiar ways
with predictive actions (e.g;
"submit" button).

INPUT ASSISTANCE

Clear error descriptions, fix
suggestions, labeled fields
and buttons, instructions…
Financial transaction
processes must be
reversible & correctible

src: Bureau of Interactive Accessibility

ROBUST

COMPATIBLE

Must be compatible with assistive technologies like Screen Readers.

DEFINED

Define the role of interface components within code,

VALIDATED

HTML should be validated to make sure all elements are well-nested, with start & end tags.
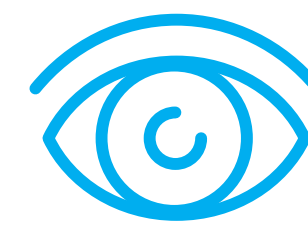
TYPES OF DISABILITIES TO CONSIDER

NEUROLOGICAL

HEARING

VISUAL

NEUROLOGICAL

epilepsy, dyslexia, dementia

Avoid flashing lights & colors (especially red)

Avoid complex or moving patterns

Blinking must be no faster than 3 times per second

HEARING
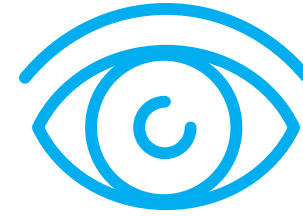
deaf, hard of hearing (15%)

_____

Add captions to video or audio

Provide transcripts

Provide volume controls other than those of the hardware

Avoid audio instructions

Any audio should be user-initiated, not automatic

VISUAL

blind, partial impairment *(6% - 17% of Americans)*, colorblindness *(8.5% of Americans)*

Be friendly to screen readers

Provide keyboard navigation

Clear UI design

Choose an accessibility friendly CMS

HOW TO ENSURE COMPATIBILITY

Perform manual checks (A, AA)

Consider testing with a screen reader (*System: JAWS 30%, ZoomText 22.2%, Window-Eyes 21%   – Browser: MozBraille, EIA*)

QA/ Test via keyboard control

Consider enlisting specialists like Audio-Eye, Bureau of Internet Accessibility, or Interactive Accessibility

Check contrast ratio throughout (Chrome Plugin, Online Checker, WAVE page analysis plugin)

[VIEW CHECKLIST](#)