Agenda

• What is accessibility and why should I care about it?
• What should I know before I start a new project?
• I already have a web project. What should I do?
What is accessibility and why should I care about it?
“The power of the Web is in its universality. Access by everyone regardless of disability is an essential aspect.”
— Tim Berners-Lee, inventor of the World Wide Web
Types of Disabilities

• Visual
  – Blindness, color blindness, low vision
• Auditory
• Physical and Motor
• Cognitive and neurological
  – Comprehension, attention, problem solving, cognitive overload, seizure, memory
Visual

Glaucoma
Motor
Dyslexia

Dyslexia is characterized by difficulty in understanding or processing written or printed language. It affects reading, writing, spelling, and sometimes speech. Dyslexia is a neurological condition, not a learned disability or behavior problem. The brain areas that process language are disrupted, causing a person to have trouble reading and comprehending written material. Dyslexia is a specific learning disability that causes reading problems for many people who are otherwise intelligent and well-trained in reading.

Dyslexia is one of the most common learning disabilities. It is estimated that 10% to 15% of the population has dyslexia.

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Assistive Technology

Technology designed to help people with disabilities use computers, including:

- Screen readers, screen magnifiers, Braille devices
- Captions, transcripts
- Keyboards, mouth sticks, voice activated technologies
Accessibility Guidelines

Web Content Accessibility Guidelines (WCAG)

– Version 2.0: 2008; Version 1.0: 1999
– A sliding scale of accessibility: A, AA, AAA
– 4 Principles:
  • Perceivable
  • Operable
  • Understandable
  • Robust
– https://www.w3.org/TR/WCAG20/
Objections to Accessibility
Limited Benefits

• Benefits are important for people with disabilities
  – “UN ... recognizes access to information and communications as a basic human right” (W3C)
  – Accessibility supports social inclusion (W3C)
For example

- Per the National Federation of the Blind, people with a visual disability...
  - 30% live below the poverty line
  - Median Household Income: $36,500 ($52,000 for the US)
  - 21.2% lack health insurance
  - 60% are not employed
  - 86.3% do not have a Bachelor’s Degree (age 21-64)
People without disabilities also benefit from accessibility

- Transcripts and captions
- Easier processes to complete / easier forms to fill out
- Easier legibility
Type the characters you see in the picture below.

parthstfu

Letters are not case-sensitive
Prohibitive Costs

• Many accessibility enhancements do not require special technical expertise or excessive time
  – Simplifying content
  – Adding descriptive text to images
  – Using an appropriate heading structure

• Costs can be minimized by planning for accessibility from a project’s beginning.
Aesthetics

• Many accessibility improvements are visible only to users with assistive technology
  – Additional text for screen readers
  – Some visual effects are only seen by users who don’t use a mouse

• Compare web accessibility with building accessibility
What should I know before I start a new project?
Learn about your audience

- Are there any populations in particular you know you need to prepare for:
  - Students
  - The elderly
  - Non-native English speakers
  - People in other countries
  - People on mobile phones
Be honest about your org

- Know the limits of how much money and manpower you have
  - How many people will be maintaining the project once completed?
  - What kinds of expertise will those people have? How will they get training to maintain the project once completed?
- Prioritize your needs and requirements
Know your resources

• Yale ITS
  – YaleSites
  – User Experience and Digital Strategy
  – Vendor Management
  – usability.yale.edu

• Resource Office on Disabilities
  – rod.ys.yale.edu
Ask the right questions

• Ask vendors, designers, developers, whoever will be working on the project the right questions:
  – Are you familiar with WCAG 2.0?
  – Are you familiar with ARIA?
  – Have you done accessibility work before?
  – What is your process like for ensuring accessibility?
PALEONTOLOGY

Meet a monster

A Yale-led team of paleontologists has provided new insights into the 300-million-year-old animal with the same lineage as the elephant. The Feature Archive
Other leadership roles at Yale have included: chair of the Department of Psychology from 2000 to 2003; dean of the Graduate School of Arts and Sciences in 2003 and 2004; and dean of Yale College from 2004 to 2008.
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Thank you South Carolina
Peter Salovey, A.B., ’86 Ph.D.

Peter Salovey is the 23rd president of Yale University, and the Chris Argyris Professor of Psychology. His presidential term began in July 2013.

Prior to becoming president, Salovey served as the provost of Yale University from 2008 to 2013. As provost, Salovey facilitated strategic planning and initiatives such as: enhancing career development and mentoring opportunities for all Yale faculty members; promoting faculty diversity; creating the Office of Academic Integrity; establishing the University-wide Committee on Sexual Misconduct; developing the...
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I already have a web project. What should I do?
DON’T: abuse the text editor

• Use the proper heading level
  – Don’t pick headings just on how they look.
  – Use H2, then H3, then H4
• Don’t use **bold** when you mean to use a heading instead
• Don’t change colors, background colors, or fonts; keep the defaults
• Don’t use tables for layout. Don’t add styles to tables
• Don’t underline anything
DON’T: abuse the text editor
DO: add “alt” text to images

Since blind people cannot see images on a site, screen readers must describe the image that’s on the page.

Informational images require “alt” text.

Purely decorative images do not require “alt” text.
DO: add “alt” text to images
DO: make link text clear

• Sighted people do not read every word on a webpage. Often, they scan.

• Blind people use their screen readers to “scan” a page by only reading out the links on the page.

• Links should be as clear to blind people as to sighted people.
To fill out the application form, [click here](#). To see instructions for how to fill out the form, [click here](#).
DO: make link text clear
Applicants should fill out the Program Application Form. Please see the instructions for completing the application form for assistance.
DO: make link text clear

Program Application Form

instructions for completing the application form
DO: simplify your content

- Writing for the web is fundamentally different than writing for other media.
- Paragraphs should generally be shorter than 80 words; sentences should not be complicated.
- Use lists, not paragraphs.
- Use a reading level estimator; aim for high school level text.
  – https://readability-score.com
DO: be careful with videos

• Try not to use videos unless they are absolutely necessary
• If you do use videos, link to a version with captions
• Add captions in YouTube; do not rely on automatic captions.
• Prefer “talking head” videos to videos containing action
• Provide a transcript
DO: use web pages, not files

• If possible, include information in a page rather than a file.
• Word documents and PDFs can be made accessible, but it requires time, effort, and software (e.g. Acrobat Pro)
Resources

- usability.yale.edu
- https://www.w3.org/WAI/
- http://webaim.org
- accessibility.psu.edu
- https://wave.webaim.org(toolbar/)
- http://webaim.org/resources/contrastchecker/
Questions?

Contact us:
Michael.w.harris@yale.edu
uxdigitalstrategy.yale.edu
usability.yale.edu
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• “Stairs”, tami.vroma, https://flic.kr/p/5B7TYa
• “Glaucoma”, National Eye Institute, https://flic.kr/p/cuGJHA