



Accessible Web

**Thanks to Scott Williams at the UM Office for
Institutional Equity for his materials**

<https://accessibility.umich.edu/>



Goals

- Learn what a web accessibility professional does
- Understand how disabilities relate to the web
- Introduce the four principles of accessible interface design



What does a “web accessibility coordinator” do?

- **Helps guide policy and purchasing decisions**
- **Evaluates web interfaces for accessibility**
- **Assists those with disabilities to access online infrastructure**
- **Keep pace with changing technology**



1 in 5 People Have a Disability

- There are 60 million people with disabilities in the U.S.
 - Half are impeded using the internet
- Visual Issues
- Hearing Issues
- Motor Issues
- Cognitive Issues



Visual Disabilities

- **Blindness, low-vision, color-blindness**
- **8 million have difficulty reading ordinary newsprint (even with glasses)**
 - **1.8 million are completely blind**
- **How is your font-size, color-contrast, font-style?**



Hearing Disabilities

- Partial to total deafness
- 8 million have difficulty hearing a normal conversation
 - 1 million are completely deaf
- Do your videos include closed-captioning? Are you blaring music?



Motor Disabilities

- **Inability to use a mouse or physical keyboard, slow response time, limited fine motor control**
- **Dexterity issues—8 million Americans have difficulty using their arms or hands**
- **What happens when someone tries to “tab” through your page? Do you require a steady hand?**



Cognitive Disabilities

- Learning disabilities, distractibility, dyslexia, inability to remember or focus on large amounts of information
- Adults with ADD/ADHD: 16 million
- 38% of soldiers, 31% of Marines and 49% of National Guard members returning from combat report psychological conditions such as TBI and PTSD
- Cognitive disabilities number greater than physical and perceptual disabilities combined



More Stats

- **8.3% of the U.S. population have 2 or more disabilities**
- **40,000 people the in U.S are both deaf and blind**
- **41 percent of adults 65 and older have a disability**
- **8.7 million people with disabilities are poor**
- **70% of disabled are unemployed or underemployed**



The web offers unprecedented opportunities for disabled

- Education
- News
- Commerce
- Social
- Benefits of web are amplified for disabled!!
- Web is an enabling technology



Legal

- **DOJ is in the process of revising Title II and III of the ADA to include online resources of state and local entities**
- **Case law—individuals or entities can file civil rights complaints, e.g., Penn State, NYU, Northwestern, FSU, Target, Southwest Airlines, Priceline.com, Ramada, Kindle, etc.**



What is web accessibility?

- Making the web accessible for the *widest possible audience*
- This audience includes Temporarily Able-Bodied users (TABs)
- Currently, online infrastructure is *hostile* to those with disabilities
- Inseparable from SEO, mobile, and usability: improve one and you improve the others
- *Best way to accomplish accessibility? Adherence to standards.*



W3C WCAG 2.0

- **W3C Web Content Accessibility Guidelines** are principle-, not technology-based
- The four principles (**POUR**):
 - **Perceivable**
 - **Operable**
 - **Understandable**
 - **Robust**



Review

- **Designing with accessibility in mind is the right thing to do for many reasons**
- **Adhering to standards (not flashy, cool effects) is key**
- **Pay special attention to the semantics behind the HTML5 tags**



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Validating Your Site

Check your code!



Why validate?

- **Browsers are the helicopter parents of programming**
- **As your pages become more complex “hidden” areas can be devastating**



Three approaches

- **Validate by URI**
- **Validate by Filename**
- **Validate by Direct Input**



Don't freak out!

- **Errors propagate, so always start at the top**
- **Search for solutions online and in forums**



Accessibility Validation

- You can use wave.webaim.org to validate accessibility
- You can install an extension to check local pages.



Review

- **Validated sites are more robust and more accessible**



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Hosting Your Site

How to get your site on the Web



Requirements

- **Domain name**
- **Hosting company**



Domain Names

- Typically purchased for multiple years at cheap rate
- Most common is .com, but other extensions are gaining acceptance
- *Domain names are useless on their own*



Hosting

- **What is your URL right now?**
- **You need a registered IP address to connect with your domain name**
- **Hosting services vary**
 - **Free**
 - **Mid-range**
 - **Full-service**



Free Services

- Little/no control of domain name
- Limited tools
- Advertising and redirects
- Familiar look and feel across them



Paid Services

- Tend to have better tools
- Support is available
- But check for free services through work/school



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Final Project Demo



Final Project

- The final project gives you a chance to practice what you have learned so far.
- The topic and content are open to you.
- There are some requirements to help with grading.



Requirements

1. Create a fully formed page with a doctype, head, and body
 - a. Use semantic tags, including h1 and main.
 - b. Include a list with at least three items
 - c. Include at least three images
2. Validate your site
3. Host and share your site
4. Peer review a site



Examples

- [Example 1](#)
- [Example 2](#)
- [Example 3](#)



Validate Your Site

- Use the W3 validator to check the syntax
- Use the Wave validator from WebAIM to check for accessibility



Share Your Site

- If you are using Replit you can share your site easily.
- If not, you can utilize some of the optional videos to learn about other ways to host your site.



Peer Reviews

- You will need to do at least three peer reviews to receive credit for this assignment.
- The expectation is that everyone will participate in this assignment.
- If you are not a paid learner, consider putting the link to your site in a forum.



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Closing



Wait? That's It?

- With the exception of forms and some graphics the lectures and reading have covered the bulk of the HTML5 tags.
- But what can I do???



Edit/View Files and Code

- You can use an editor to create or modify an html file
 - Creation – create shell for designers
 - Modify a page created by web-authoring software
- You know the different options for opening a file



Evaluate Accessibility

- Use “View Source” to look at code from any site
 - Did they use semantic tags?
- **w3.validator.org checks for well-structured code**
- **wave.webaim.org checks for semantic structure**



Publish Site

- You know the basic requirements (domain/host) for publishing
- Achieving even a small familiarity with as many systems as you can is beneficial.



What next?

- Continue to practice your skills
- Get comfortable with multiple editors
- Try uploading your code
- Begin to learn about Cascading Style Sheets!!



Thank you!



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The Secret Lecture

Separating Content From Style

- Separating content from style is basic tenet of HTML5
- Tags are meant to convey information
- But.....

Using the “style” attribute

- Every tag can utilize a **style** attribute.
 - Similar to **href**, **src**, **alt**, etc.
- Style can specify color, background-color, margins, etc.

```
<h1 style = "color:blue;">Colleen van Lent</h1>
```

Colleen van Lent



The screenshot shows a web browser window with a light gray header bar containing the title "Colleen". The main content area displays a self-introduction page with the following sections:

- Colleen van Lent**
- [One](#) [Two](#) [Three](#) [Your Choice](#)
- Favorite Foods**
 - Apples
 - Pizza
 - Crab
 - Chocolate Cake
- Achievements**

Progress in this course (100%)

Progress in the Specialization (20%)

Progress in life goals (67%)
- More About Me**

▼ My Childhood

I grew up in Ashtabula Ohio. I lived near Lake Erie and I really miss the sunsets over the water.
- WD4E**

This page was created by your name & Colleen van Lent. To learn more about web design, visit [Intro to Web Design](#).



The image displays two side-by-side browser windows, both titled "Colleen". The left window shows a user profile for "Colleen van Lent" with a green sidebar. The right window shows the same profile with a blue title and a red sidebar.

Left Window (Green Sidebar):

- Name:** Colleen van Lent
- Profile Options:** One Two Three Your Choice
- Section:** Favorite Foods
 - Apples
 - Pizza
 - Crab
 - Chocolate Cake
- Section:** Achievements
 - Progress in this course (100%)
 - Progress in the Specialization (20%)
 - Progress in life goals (67%)
- Section:** More About Me
 - ▼ My Childhood
 - I grew up in Ashtabula Ohio.
- Footer:** WD4E more about web design, visit [Intro to Web Design](#).

Right Window (Blue Title, Red Sidebar):

- Name:** Colleen van Lent
- Profile Options:** One Two Three Your Choice
- Section:** Favorite Foods
 - Apples
 - Pizza
 - Crab
 - Chocolate Cake
- Section:** Achievements
 - Progress in this course (100%)
 - Progress in the Specialization (20%)
 - Progress in life goals (67%)
- Section:** More About Me
 - ▼ My Childhood
 - I grew up in Ashtabula Ohio. I lived near Lake Erie and I really miss the sunsets over the water.
- Footer:** WD4E This page was created by your name & Colleen van Lent. To learn more about web design, visit [Intro to Web Design](#).

Why not use it?

- There are practical reasons for not using style attribute
 - Only applies to one element
 - Difficult to change later
 - Takes away from “reusability”

Cascading Style Sheets

- A better way to style your page is to use Cascading Style Sheets
- Styling is done in a separate file and the HTML file links to whichever style files work best for that site.



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