



# 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](https://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%)

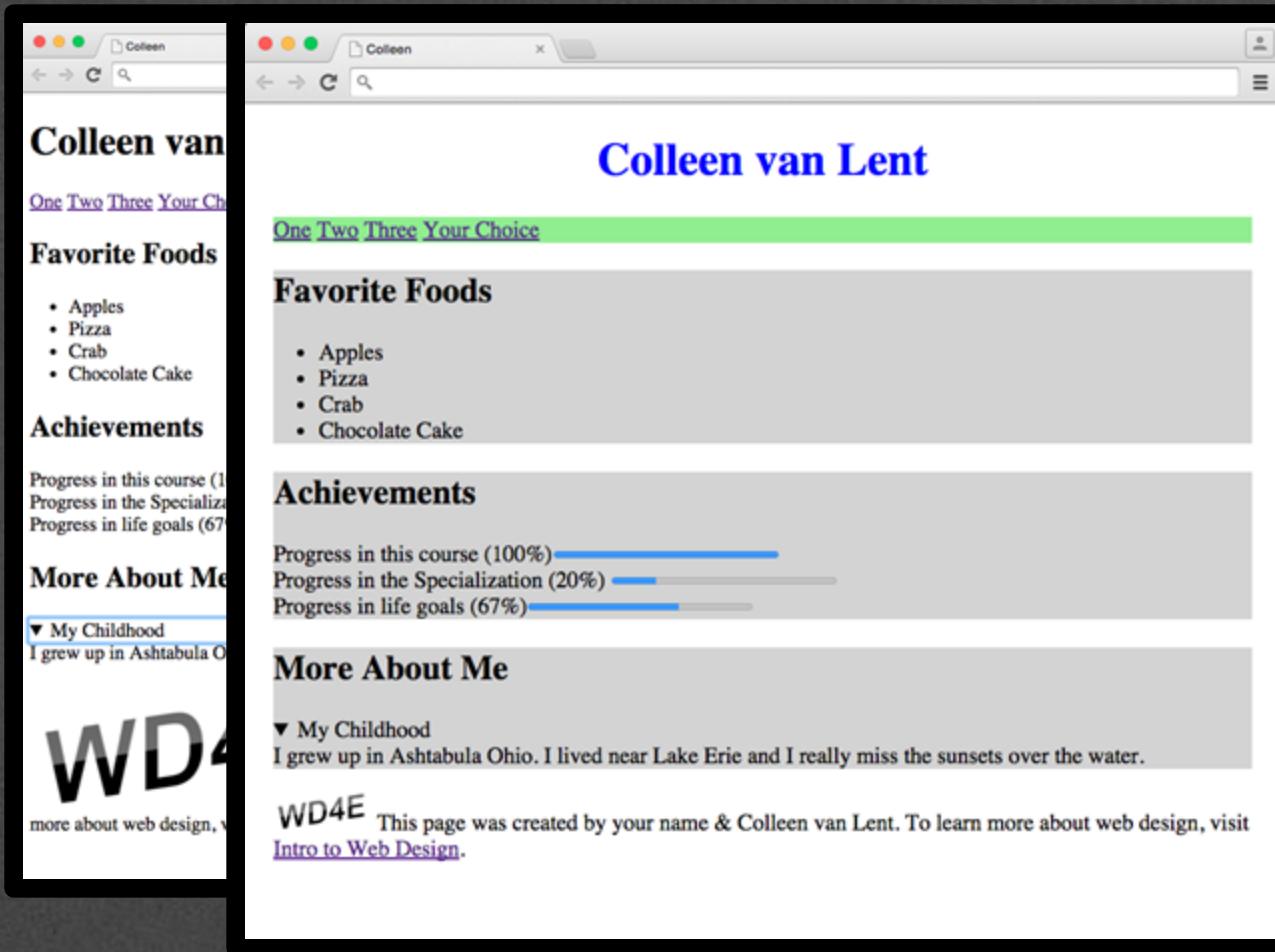
Progress in the Specialization (20%)

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 screenshot displays two side-by-side browser windows, both titled "Colleen". The left window shows a basic profile page with sections for "Favorite Foods" and "Achievements". The right window shows an enhanced version of the same page, where the "Achievements" section includes progress bars and the "More About Me" section includes a collapsed "My Childhood" section.

**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](#).

# 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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