

# 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](http://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](http://w3.validator.org) checks for well-structured code
- [wave.webaim.org](http://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.....**

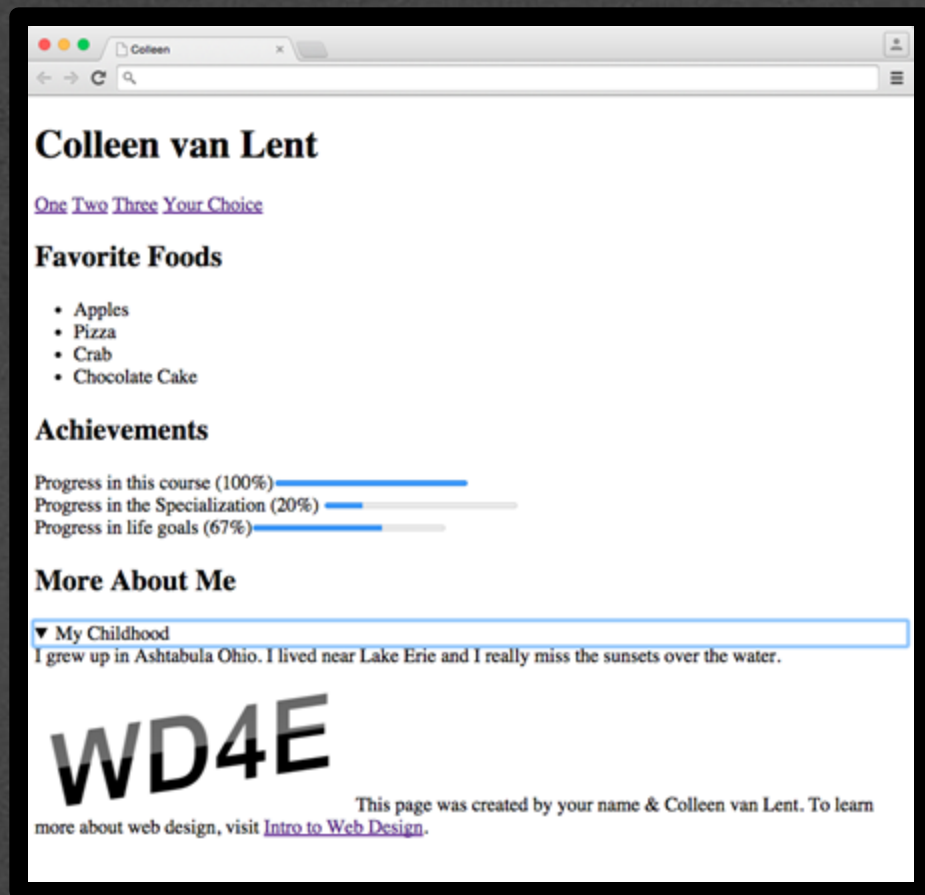
# Using the “style” attribute

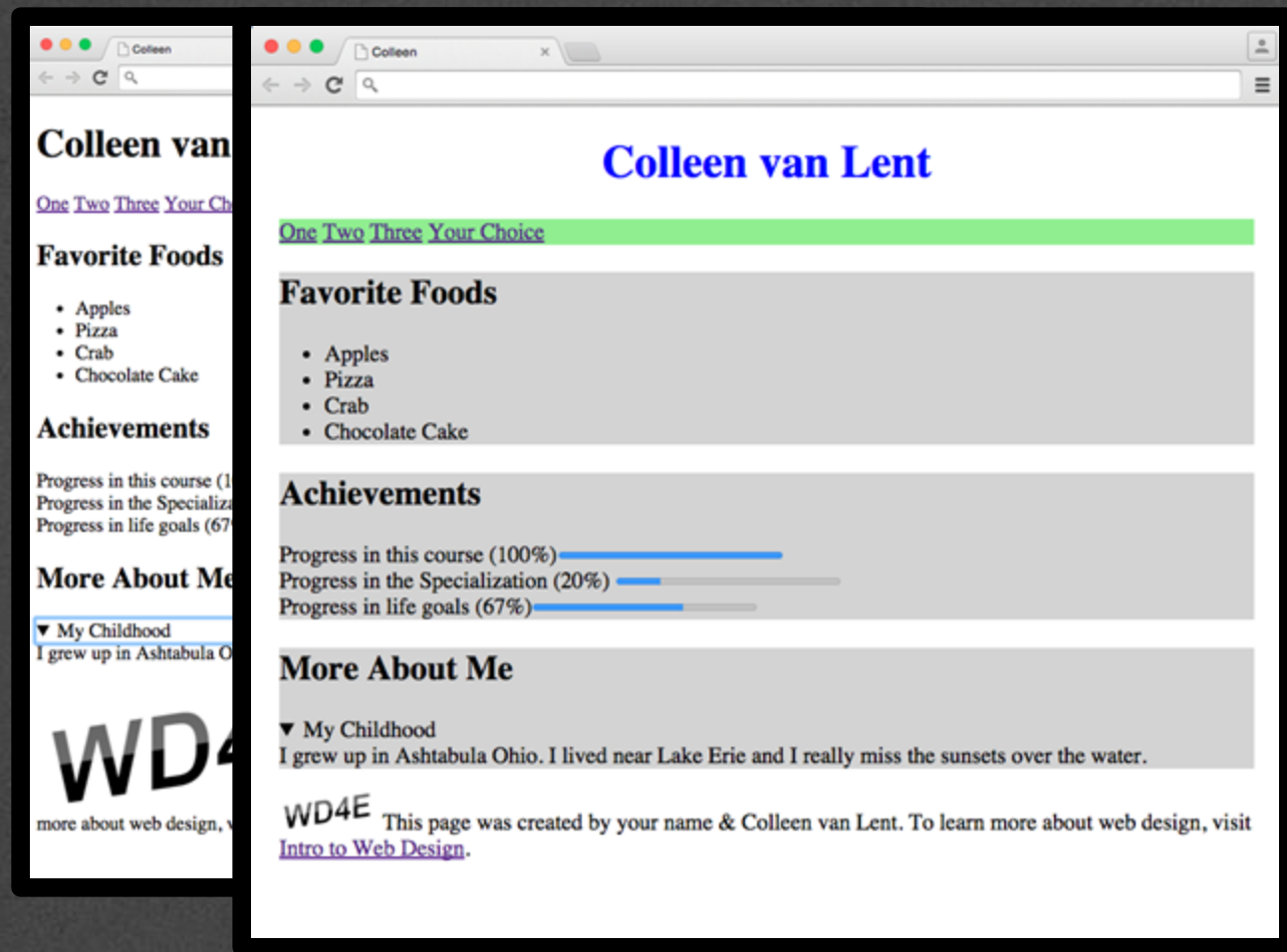
- Every tag can utilize a **style** attribute.
  - Similar to **href**, **src**, **alt**, **etc**.
- Style can specify color, background-color, margins, etc.

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

**Colleen van Lent**







## 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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