introduction to mobile-first responsive design & modern HTML5

COMP 126: Practical Web Design & Development for Everyone

what is responsive design?

practice progressive enhancement

- first, design the simplest, most accessible version of your web app to be functional at the smallest possible viewport size, for all types of users regardless of impairment/ability, and on older or more basic browsers
- 2. next, add features gradually as appropriate for larger viewport sizes, landscape orientation, and more sophisticated/modern browsers

a responsive design requires:

- the appropriate meta information for the browser
- a fluid layout that automatically resizes/realigns to be usable and look good on any (reasonable) viewport (browser/device) size or orientation
- images, video, media, & styling that automatically scale to be usable and look good on any (reasonable) viewport size or orientation
- a way to change the things that still look weird at some sizes & orientations regardless of your fluid/scalable styling: in this case, that means media queries

in short:

- viewport meta
- fluid layout
- scalable media
- media queries (usually)

the viewport <meta> tag

Add this to your <head> (not <header>) element:

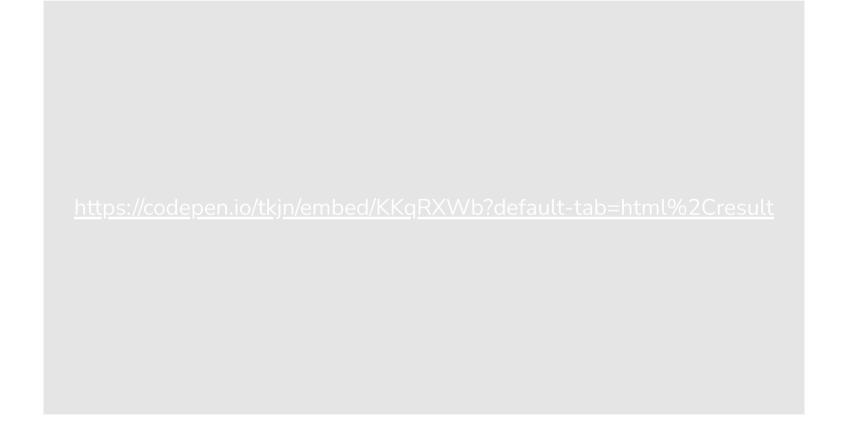
```
1 <meta name="viewport"
2 content="width=device-width,initial-scale=1.0"/>
```

Translation:

"Please check the width of the viewport before rendering this page in the browser and scale/display the page's contents according to that width."

flexible layout

scalable media



(mobile-first) media queries

https://codepen.io/tkjn/embed/QvQjbx?default-tab=html%2Cresult

let's make this layout responsive

https://codepen.io/tkjn/project/editor/ZGQENV

HTML5:

getting it

right

the responsive basics

```
<!DOCTYPE html>
   <html lang="en">
     <head>
       <meta charset="utf-8"/>
 5
       <title>proper HTML5</title>
       <meta name="viewport"</pre>
 6
         content="width=device-width,initial-scale=1.0"/>
       <link rel="stylesheet" href="css/styles.css">
       </head>
10
       <body>
11
         everything you want to appear in the browser
12
       </body>
   </html>
```

structural/semantic elements

```
1 <main>once per page, primary unique content</main>
 2 <section>for grouping elements with headers--
 3 to organize, not to style (use divs for styling)
 4 </section>
 5 <nav>navigational links with li's or a's</nav>
 6 <article>self-contained textual content
 7 </article>
8 <aside>tangential content--doesn't have to
     be a sidebar</aside>
10 <header>page header, but not necessarily
11
     only page header</header>
12 <footer>page footer, but not necessarily
13
     only page footer</footer>
14
   <div>generic container; when nothing else
16
     suits</div>
   <figure></figure>tigcaption>for image
     with caption</figcaption>
```

validating your code

online

for HTML: https://validator.w3.org/

for CSS: http://jigsaw.w3.org/css-validator/

for JS: https://codebeautify.org/jsvalidate

VSCode extensions

for HTML: W3C Web Validator

for CSS: stylelint

for JS: ESLint

general accessibility checklist

- 1. Got a <title> element?
- 2. Got your <alt> tags on your elements?
- 3. Is there at least one <h1> element?
- 4. Are your header (<h1>, <h2>, etc) elements in order/hierarchical?
- 5. Is your text/background contrast ratio sufficient for readability? Check it here: https://webaim.org/resources/contrastchecker/
- 6. Is your text 14-16px or larger?
- 7. If users increase the default font size of their browsers, do your layout and fonts scale to fit?
- 8. Have you added :focus states to match all your :hover states?
- 9. Is moving or blinking content optional and user-controlled? (There's more we'll get to later, but those are the basics.)