

# Responsive and Adaptive Designs

- Confusing Terminology
- "Responsive" can be an umbrella term for both
- Both about page effective at different screen sizes
- Neither denies nor requires "gutters"
  - Some designs don't go full width
  - Essentially a max width
  - Has empty/background "gutters" on sides
  - **<http://examplecat.com/>** over 700px wide

# Responsive Design

- A page that uses available size
- Content wraps as needed
- HTML is naturally responsive!
  - But we can mess it up with styling
  - Important to regularly check

# Adaptive Design

- Changing layout at certain breakpoints
- Not automatic
  - Uses media queries for screensize
- Allows for good use of space
  - Not just wrapped use of space

# How?

TL;DR: Media queries

- CSS operates off of 2+ options for layout
  - Based on viewport dimensions
  - Can reorder elements in layout
  - Can collapse menus/sections
- May target:
  - Mobile/Desktop
  - Mobile/tablet/desktop
  - Landscape/portrait(s)/desktop/widescreen
  - Or just where it content benefits

# Grey Area (Gray Area?)

Is this Responsive or Adaptive?

- Uses media queries to how many items shown

Read multiple results for "Responsive vs Adaptive"

- Will get different answers
- Doesn't really matter
  - What we call it doesn't impact users
- I'll call that "Adaptive"

# Simple example

Page:

- header
- menu
- content
- footer

Desktop size:

- Vertical to left of main content

Mobile size:

- Horizontal menu across top of main content

# Media Queries

```
@media (min-width: 1000px) { /* at least this width */  
    /* CSS Rules here */  
}  
  
@media (max-width: 1000px) { /* below this width */  
}  
  
@media (min-width: 600px) and (max-width: 1000px) {  
    /* a middle size */  
}  
  
@media (600px <= width <= 1000px ) {  
    /* Newer range syntax (confirm age on caniuse.com) */  
}  
  
@media (width > 760px) {  
    /* Also newer range syntax - as of May 2023 for Safari*/  
}
```

# **But how do we test mobile?**

Not perfect, but helpful

DevTools has many preset mobile options

- Why doesn't the mobile work?!
- Desktop resizing does!



# Mobile Cheats

- Layout viewport
  - Media query checks!
- Visual viewport
  - Allows for zoom and pan

Most mobile devices render as if a larger size

- then zoom out

Override with

```
<meta name="viewport" content="width=device-width">
```

# **Don't stay in mobile mode!**

I'm not sure why many students do this

- Use mobile mode to test mobile sizes
- Use normal (desktop) mode normally
- Turn the mode on and off
  - Not just "on" once and forever

# Summary - Responsive

- HTML is naturally **responsive**
  - Content uses available space
  - Height as needed
  - Wraps as needed
- Devs can mess it up with fixed sizes
  - Including text size assumptions
- Remember your specific screen isn't "normal"
  - There is no "normal" screen size
- Remember users may have different text sizes

# Summary - Adaptive

- **Adaptive** sites change **layout**
  - At different viewport **breakpoints**
  - Often shift horizontal layout to vertical
  - Often collapse menus/sections
- Implement with **media queries**
  - Often the min-width/max-width

# Summary - Setting Meta viewport

- Mobile often render with different viewport size
  - Then visually zooms in
- Can cause disconnect with media queries
- Override with:

```
<meta name="viewport" content="width=device-width">
```

- Easy to forget!
- Esp. if you don't use mobile view in DevTools
- Remember to do on assignments!