Media Queries

Media Queries

- Media queries allow the style to depend upon the media properties

- CSS 2.1 used media types

```
<link rel="stylesheet"… href="style.css" media="screen" />
<link rel="stylesheet"… href="print.css" media="print" />
```

CSS3

- CSS3 increased the capabilities. Style can depend on many features
  - width, height, orientation, resolution, …
  - Boolean operators can also be applied to increase power

The two query components

1.   A media type

   •   screen, print, all, …

2.   The actual query of a media feature and "trigger" size

   •   width, height, orientation, resolution, …

   screen and (max-device-width: 480px) and

   (resolution: 163dpi)

How to implement media queries

- Use the @import rule

@import url(smallstyle.css) screen and (min-width:600px)

- Put media query directly in the style sheet

@media screen and (min-width:500px){..}

- Include query in the link

<link rel = "stylesheet" media = "screen and (min-width:400px)"> and (orientation: portrait)>

Review

```
@media screen and (min-width:500px){
    p.desc {
                display: block;
            font-size: 150%; }

}
@media screen and (min-width:900px){
    p.desc {
                display: inline-block;
            width: 35%;
            font-size:125%; }

}
```

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Wireframes

Wireframes

- I have done a bad, bad, thing…

- This lecture should have come earlier in the course, because your layout is one of the first things you should think about.

- Wireframes provide a visual representation of your layout.
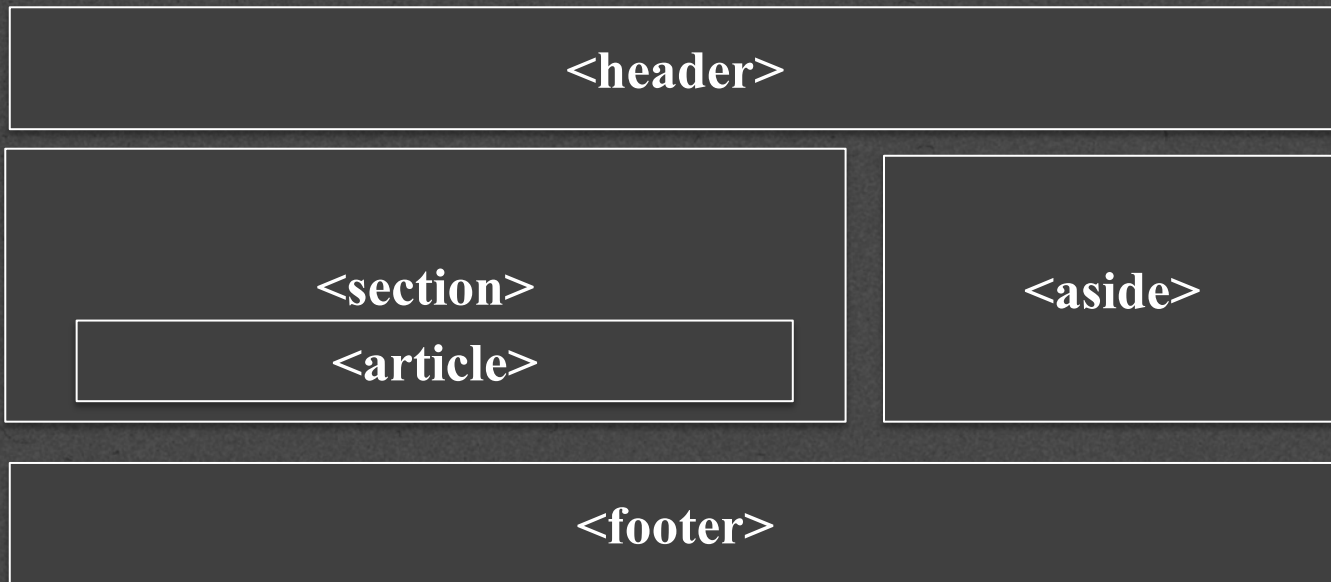
Decide on major content

- What content (including graphical) do you NEED to have on the page?

- What is the best layout for this material?

Mobile View

- The most important step in web design is the *design*.
- You need a clear picture of what you want to create, before you can begin coding.

<header>

<section>
<article>

<aside>

<footer>
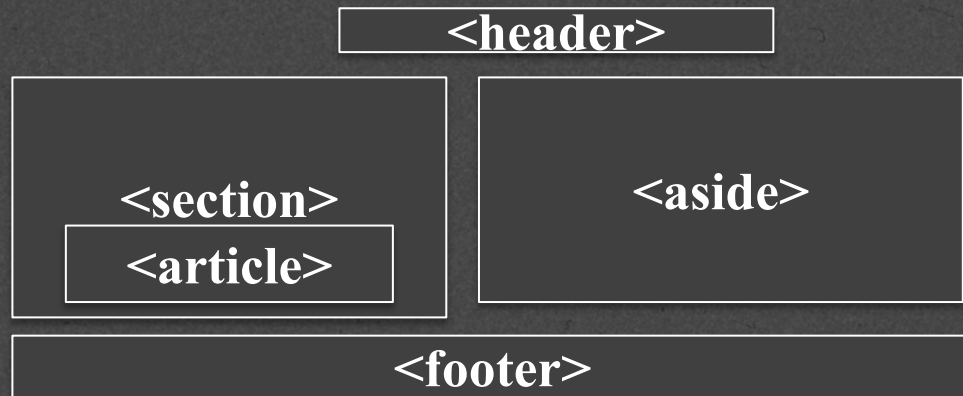
Larger View

\<header\>

\<section\>

\<article\>

\<aside\>

\<footer\>

Functionality

- The design should be about more than layout.

- It is possible to test the interaction as well (navigation, forms inputs, etc.)

Sketches vs Wireframes

- I recommend starting with a sketch…

- Once you have initial feedback, move to wireframe

- http://www.dtelepathy.com/blog/design/learning-to-wireframe-10-best-practices

Sketches vs Wireframes

- I recommend starting with a sketch…

- Once you have initial feedback, move to wireframe

- Wireframing: 10 Best Practices and Guidelines

Review

- When you are beginner, coming up with a design plan can be more difficult, because you don't have a client to give you feedback.

- Another challenge is keeping things simple/changeable

- If you would like to focus on design, it is still important to understand the basics of coding.

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Breakpoints

Breakpoints

- What are they?

  - Sizes that define a change in your site layout or content.

- What are they used for?

  - To provide best possible experience for users based on device information.

What does "trigger" mean

- People may use the phrase "breakpoints trigger changes".

- To be honest, most people don't resize their window.

- So I will use breakpoints to refer to which rules are applied.

Determining the Breakpoints

- Breakpoints should correspond to:

  - devices and/or

  - content

Common Breakpoints

- Because device sizes change, you shouldn't design for a specific device, but testing on existing sizes is helpful.

- You can use Inspect Element to do this.

Mobile first

- What does this mean?

  - You shouldn't see breakpoints for small screens. The default styling already covers that.

  - You should have min-width instead of max-width.

Beyond Viewport Sizes

- Responsive is based on more than screen size

    ○ Orientation

    ○ Resolution

    ○ Accessibility preference (prefers reduced motion)

    ○ Device preferences (color schemes, battery mode)

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Media Queries

Part Two

Easier Watched than Done

- Using/understanding media queries is key to responsive design.

- This lecture will describe the process in three steps

Step 1: Grab information

- The meta viewport tag tells mobile browser's viewport how to behave.

<meta name = 'viewport' content='width=device-width, initial-scale=1'>

- Disallow zooming:

<meta name = 'viewport' content='width=device-width, initial-scale=1, maximum-scale = 1'>

Step 2: Fluid layout

- If you use breakpoints, some absolute measurements are not unusual.

- percentages vs ems

  - ems are measurement of typography. 1em is width of one letter M in current typeface.

- paddings and margins affected by width, not height

Step 3: Media queries

- Fluid layout that is triggered by certain sizes.

- Design for small screen and work bigger.

  - Some sites strip out information, hiding certain aspects of the site that they deem less important. There are two issues with this.

    - penalizes mobile users browsing the website

    - doesn't mean the content doesn't get downloaded-this can affect performance

Ordering your rules

@media only screen and (min-width: 1024px) {

body{ background: blue; }

}

@media only screen and (min-width: 780px) {

body{ background: yellow; }

}

body{ background: green; }

RD: Media Queries Part 2

Concept Check

- Should your media queries be at the top or bottom of the page?

- Trick question - depends upon if you are using max-width or min-width

- Assuming min-width, put the rules on the bottom.

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