Review Guide: Responsive Design

Let's review some of the key ideas introduced in this unit. You can also download all this content for future reference by clicking on the attached file.

Responsive Web Design

As more and more users are accessing the internet from smart phones and tablets, this means that your site needs to be able to perform well on much smaller screens. However, simply making everything smaller might make parts of your page difficult to read or use.

Responsive Design means designing a single site that adjusts to provide an optimal viewing experience for every device on which a site could be viewed.
To master responsive design, there are three tools available: fluid layouts, media queries, and ems.

Fluid Layouts

Fixed Width Layouts vs. Fluid Layouts

"Fixed-width layout" means that regardless of the browser or device screen size, the elements on the page will maintain the same fixed pixel width.

Fixed-width layouts are fine for sites that are only intended to be seen on one type of device; however, they quickly experience problems when launched on a screens of different sizes.

"Fluid layouts" (also known as "liquid layouts") offer a solution to this issue. While fixed-width layouts are defined with hard-coded pixel values, fluid layouts define space with percentages. By using percentages, we are able to create layouts that shrink and expand relative to the browser and device size.

Fluid Layout Example

```
div {
width: 100%;
}
```

Fixed Width Layout Example

```
div {
width: 1024px;
}
```

Media Queries

Media queries allow us to retrieve information about the type of device that's viewing our site and deliver CSS styles accordingly. This allows us to make changes that go beyond just shrinking the space of elements on the screen.

We can un-float and rearrange elements, alter our navigation items, and hide and show elements, all based on the width of the device that is rendering our page.

Media Query Example

In the following example, we are telling the browser that's loading our page, "If the maximum width of the browser is larger than 500 pixels, change the font-size of the body to 12 pixels."

```
@media screen only and (min-width: 500px) {
body {
font-size: 12px;
}
```

Ems

Ems are a unit of measurement, like pixels; however, unlike pixels, which are absolute, ems are relative to the font size of their parent element. If the parent element is not given a size, ems will default to 16px on most browsers.

The em allows us to define and measure elements in relative terms. In combination with our media queries, this allows us to set the typography sizing JUST BY setting the font size value on the body.

Em Example

```
body {
font-size: 10px;
}
```

```
.em-unit {
background-color: #FF6A5E;
width: 4em;
height: 2em;
}
```

Fixed-Width Example

```
.fixed-unit {
background-color: #FF6A5E;
width: 40px;
height: 20px;
}
```

Target Sizes for Media Queries

The following guide is designed to give you a sense
of the diversity in sizing on target devices. Generally speaking, when building your code, you should avoid targeting specific devices and instead use your media queries to specify general device widths and heights.

Only target specific devices if you expect that specific device to be your users' primary access device.

HTC One
Device Width: 360
Device Height: 640

Samsung Galaxy S4/S5
Device Width: 320
Device Height: 640

LG Nexus 5
Device Width: 360
Device Height: 592

iPad Mini
Device Width: 768
Device Height: 1024

iPad 3 / iPad 4
Device Width: 768
Device Height: 1024

iPhone 4
Device Width: 320
Device Height: 480

iPhone 5
Device Width: 320
Device Height: 568

Questions to Ask Your Mentor

- Do I need to use fluid layouts, media queries, and ems in order to make my page responsive?
- When starting from scratch, what is the best process for building a responsive website?
- How can I test my page to ensure that it will be responsive across different browsers (without having to go to each different type of browser on every device)?
- Are there other approaches to building pages for various browsers and devices?
- How do I determine which elements of my page to highlight as the screen size "shrinks"?

Further Reading

Looking for more help with Responsive Web? Here are a couple places you can check out:

Responsive Design
http://johnpolacek.github.io/scrolldeck.js/decks/responsive/
http://designmodo.com/responsive-design-examples/
http://responsivedesign.ca/
http://www.smashingmagazine.com/responsive-web-design-guidelines-tutorials/
http://blog.froont.com/9-basic-principles-of-responsive-web-design/

Fluid Layout
http://www.smashingmagazine.com/2009/06/02/fixed-vs-fluid-vs-elastic-layout-whats-the-right-one-for-you/
http://www.takeflyte.com/resources/newsletters/04/12-fluid-v-fixed-web-pages.php
http://green-beast.com/blog/?p=199
http://www.stuffandnonsense.co.uk/archives/fixed_or_fluid_you_decide.html

Media Queries
https://developer.mozilla.org/en-US/docs/Web/Guide/CSS/Mediaqueries
http://code-tricks.com/css-media-queries-for-common-devices/

Ems
http://kevinperalta.com/playground/emsize.html

Testing Responsive Design
http://www.jamus.co.uk/demos/rwd-demonstrations/
https://chrome.google.com/webstore/detail/responsive-web-design-tes/objclahbaimlfnbjdeobicmmlnbhamkg

Footer Anchor
Description: http://codepen.io/bradfrost/full/mlyvu
Code: http://codepen.io/bradfrost/pen/mlyvu

Also, as usual, please feel free to reach out to your mentor.

DOWNLOADS

Summary