CSCI-UA-4-005

Intro to Web Design + Computer Principles

Responsive Design: Day 2

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M/W 12:30PM – 1:45PM

Agenda

- Responsive Images
- Rangefinder Website
  - URIs Review
  - Universal Selector
  - CSS variables
  - Favicon
  - SEO
- Open Workshop

Responsive Images

Responsive Images

- Responsive images refer to images that adapt and change based on the viewport size and device they are being displayed on.
- They are an important aspect of responsive web design, allowing images to look good and load fast across different screen sizes.
- Responsive images serve better images to clients and also improves website loading time.

srcset

- Srcset is an HTML image attribute that specifies the list of images to use in different browser situations.
- The browser will pick the most optimal image version, based on the screen size and resolution.

```
<img
   alt="image alt text"
   src="default url"
   srcset="
     url size,
     url size,
     url size
     "
/>
```

`srcset` + image density

- The more common way to to set include size information in the srcset attribute is to label each file by image density.
- You do this by putting 1x, 2x, 3x and so forth after the URL.

```
<img
   alt="flamingo in lake"
   src="flamingo1x.jpg"
   srcset="
     flamingo2x.jpg 2x,
     flamingo3x.jpg 3x,
     flamingo4x.jpg 4x,
     "
/>
```

`srcset` + image width

- The other way to inform the browser about the different sizes is to actually specify the image width in pixels.
- This gives the browser more information about the images, so it can make a better decision about which one to select.
- This is also good if your image versions aren't in exact proportion to each other.

```
<img
  alt="flamingo in lake"
  src="flamingo1x.jpg"
  srcset="
    flamingo2x.jpg 800w,
    flamingo3x.jpg 1200w,
    flamingo4x.jpg 1600w,
    "
/>
```

`srcset`

- Srcset is an HTML image attribute that specifies the list of images to use in different browser situations.
- The browser will pick the most optimal image version, based on the screen size and resolution.

`sizes`

- Allows you to specify the layout width of the image for each of a list of media conditions
- Each condition is specified using the same conditional format used by media queries.

Using `srcset` and `sizes`

```
<img
   alt="image alt text"
   src="medium.jpg"
   srcset="
     small.jpg 240w,
     medium.jpg 300w,
     large.jpg 720w
     "
  sizes="
     (min-width: 960px) 720px
  "
/>
```

`srcset` and `sizes`

```
<img
   alt="image alt text"
   src="medium.jpg"
   srcset="
     small.jpg 240w,
     medium.jpg 300w,
     large.jpg 720w
     "
  sizes="
     (min-width: 960px) 720px
  "
/>
```

All images require `alt` text

- Helps screen-reading tools describe images to visually impaired readers
- Try to be as descriptive as possible in your alt text
- Used by search engines to understand the content of image, improving your SEO (search engine optimization)

`srcset` and `sizes`

```
<img
   alt="image alt text"
   src="medium.jpg"
   srcset="
     small.jpg 240w,
     medium.jpg 300w,
     large.jpg 720w
     "
  sizes="
     (min-width: 960px) 720px
  "
/>
```

Specify the source of your image

Browsers that do not support **`srcset`** and **`sizes`** will fallback to **`src`**

`srcset` and `sizes`

```
<img
   alt="image alt text"
   src="medium.jpg"
   srcset="
     small.jpg 240w,
     medium.jpg 300w,
     large.jpg 720w
     "
  sizes="
     (min-width: 960px) 720px
  "
/>
```

In **`srcset`**, you specify a list of images in different sizes.

Behind the file name of each image you specify the width of the image in pixels (with **`w`** not **`px`**).

For example, **`small.jpg 240w`** means that this image is 240px wide.

`srcset` and `sizes`

```
<img
   alt="image alt text"
   src="medium.jpg"
   srcset="
     small.jpg 240w,
     medium.jpg 300w,
     large.jpg 720w
     "
  sizes="
     (min-width: 960px) 540px
  "
/>
```

With **`sizes`** you specify the size of the image and in which situation it must be displayed.

This is done by a combination of a media query and the width of the image.

`srcset` and `sizes`

```
<img
   alt="image alt text"
   src="medium.jpg"
   srcset="
     small.jpg 240w,
     medium.jpg 300w,
     large.jpg 720w
     "
  sizes="
     (min-width: 960px) 540px
  "
/>
```

In this code, if *viewport width* equals 960px or greater, then show the image with the width of 540px.

Now you may notice that in our example of srcset there's no image with a width of 540px. That's not a problem. The browser will select the best image available upwards in size. In this case, large.jpg will be used with a width of 720px.

Rangefinder Cameras Demo

URI Fragment

The URI fragment is the optional part at the end of a URL which starts with a hash (#) character. It lets you refer to a specific part of the document you've accessed.

You can create IDs in your page and then append them to the URL to navigate to different parts of pages.

```
<a href="http://example.com/page.html#foo">Jump to #foo on page.html</a>
```

```
<a href="#foo">Jump to #foo on the same page</a>
```

Universal Selector (*)

The * selector in CSS is known as the universal selector, and it is used to select and apply styles to all elements on a web page.

When you use the * selector, it matches every HTML element, including the HTML, body, div, span, p, h1, img, and so on.

Essentially, it targets everything within the document.

```
* {
  /* CSS rules here apply to all elements on the page. */
}
```

Child combinator (>)

The > selector in CSS is known as the child combinator, and it is used to select and style elements that are direct children of a parent element. The > selector is used to target elements that are one level deep within the parent element and no further.

```
li > div {
  /* CSS rules here apply only to div elements that are direct children of an li element. */
}
```

```
li div {
  /* CSS rules here apply to all div elements inside an li, whether they are direct children or nested descendants. */
}
```

CSS Variables

CSS variables, also known as custom properties, are a feature introduced in CSS that allow you to define reusable values and store them as variables.

To define:

```
:root {
  --primary-color: #3498db;
  --font-family: 'Arial', sans-serif;
  --spacing-unit: 1rem;
}
```

To use:

```
.element {
  color: var(--primary-color);
  font-family: var(--font-family);
  margin: var(--spacing-unit);
}
```

Favicon

A favicon, short for "favorite icon," is a small, typically square icon that represents a website, web application, or webpage.

Favicons are displayed in various places within web browsers to provide a visual identity for a site, enhance user experience, and help users easily identify and distinguish between multiple open tabs.

```
<link rel="icon" href="favicon.ico" type="image/x-icon">
```

SEO (Search Engine Optimization)

SEO, which stands for Search Engine Optimization, is the practice of optimizing websites and online content to improve their visibility in search engine results pages (SERPs).

The goal of SEO is to increase organic (non-paid) traffic to a website by improving its search engine rankings and making it more relevant and user-friendly.

```
<!-- descriptive text for SEO -->
    <meta name="description" content="History and distinctives of rangefinder cameras">
<!-- keywords for SEO -->
    <meta name="keywords" content="rangefinder, SLR, vintage, film, camera">
```

Make Rangefinders Page Responsive

Make the website responsive by making the articles display as multi-column at larger browser widths

History

The first rangefinders, sometimes called “telemeters,” appeared in the twentieth century; the first rangefinder camera to be marketed was the 3A Kodak Autographic Special of 1916; the rangefinder was coupled. Rangefinder cameras were common from the 1930s to the 1970s, but the more advanced models lost ground to single-lens reflex (SLR) cameras. Rangefinder cameras have been made in all sizes and all film formats over the years, from 35mm through medium format (rollfilm) to large-format press cameras. Until the mid-1950s most were generally fitted to more expensive models of cameras. Folding bellows rollfilm cameras, such as the Balda Super Baldax or Mess Baldix, the Kodak Retina II, IIa, IIc, IIIc, and IIIC cameras and the Hans Porst Hapo 66e (a cheaper version of the Balda Mess Baldix), were often fitted with rangefinders.

The best-known rangefinder cameras take 35mm film, use focal plane shutters, and have interchangeable lenses. These are Leica screwmount (also known as M39) cameras developed for lens manufacturer Ernst Leitz Wetzlar by Oskar Barnack (which gave rise to very many imitations and derivatives), Contax cameras manufactured for Carl Zeiss Optics by camera subsidiary Zeiss-Ikon and, after Germany’s defeat in World War II, produced again and then developed as the Ukrainian Kiev), Nikon S-series cameras from 1951–62 (with design inspired by the Contax and function by the Leica), and Leica M-series cameras.

Making the navigation responsive

Homework

— Assignment #7 (due Monday)