Assignment 6: Performance

Workshop: Images in relation to Page Load Time

Short intro:
How Important Is Site Performance For Traffic And Conversions?
https://www.forbes.com/sites/jaysondemers/2016/01/15/how-important-is-site-performance-for-traffic-and-conversions/#390f21165248

Images are big: http://brucelawson.github.io/talks/2015/respimg/?full%20-%209#8
… and getting bigger: http://brucelawson.github.io/talks/2015/respimg/?full%20-%209#9

Assignment Requirements:
This assignment must be constructed as a one-page solution. The page's layout should hold the entire question in writing followed by your response. That goes for all the questions.
Finally, the page must be validated and uploaded to your webhost.

Working with images

1. Find one of the images within your Project 1.2 solution. Include it in your page and test Page Load Time using online presets "Slow 3G". Write down the result in a p-element below the image in the following form: Image name, dimensions in pixels, size in kb, time in ms.
2. Optimize the dimensions of the image: It must not be bigger than the maximum size you actually need in your Project 1.2 solution. Include the new image into your

assignment and test the image performance. Write down the result following the form in question 1.

3. Optimize quality/compression level of the image. By "optimize" means getting the smallest file in kb as long as the visual quality stays on a level where it communicates in a good and acceptable manner in relation to your project's overall goal. Use your eyes!
4. Finally, optimize by using the webp-format. Include the result, - both image and data into your assignment following the form in question 1.
5. Now sum-up your findings: How much did you improve your Page Load Time?

Working with fallback strategy for WebP-format in unsupported browsers

Link: https://css-tricks.com/using-webp-images/

1. Include a webp image to this assignment using the fallback strategy listed below. Test in Google Chrome and Internet Explorer. Write down your findings.
   Hint: To be able to write html code in plain text you can use an online tool:
   http://www.htmlescape.net/htmlescape_tool.html

```
<picture>
  <source srcset="img/awesome-webp-image.webp" type="image/webp">
  <source srcset="img/creaky-old.jpg" type="image/jpeg">
  <img src="img/creaky-old.jpg" alt="Alt Text!">
</picture>
```

Working with RWD - Different background images

Link: https://www.w3schools.com/css/tryit.asp?filename=tryresponsive_image_mediaq

1. Include a background images to the assignment. The image must be substituted by another image at all screen wider than 768px.
   Remember to include the text of this task and the code below into your assignment.

```
/* For width smaller than 400px: */
body {
  background-repeat: no-repeat;
  background-image: url('img_smallflower.jpg');
}

/* For width 400px and larger: */
@media only screen and (min-width: 400px) {
  body {
    background-image: url('img_flowers.jpg');
 }
}
```

Working with RWD - Different foreground images

https://www.w3schools.com/css/tryit.asp?filename=tryresponsive_image_mediaq

1. Include a foreground image to the assignment using the picture element. The image must be substituted by another image at all screen wider than 768px.
   Remember to include the text of this task and the code below to your assignment.

```
<picture>
  <source srcset="img_smallflower.jpg" media="(max-width: 400px)">
  <source srcset="img_flowers.jpg">
  <img src="img_flowers.jpg" alt="Flowers">
</picture>
```

Working with RWD – Background image only on wider screens

http://stackoverflow.com/questions/16563730/need-empty-div-with-background-image-to-force-height-and-must-be-responsive

1. Include a background image to the assignment. The image must only be requested, downloaded and displayed at screens wider than 768px.
   The image should display as a banner in an empty div element.
   Remember to include the text of this task and the code below to your assignment.

```
#top-banner {
background-image:url(../images/banner-apollo.jpg);
background-size: 100%;
width: 100%;
padding-top: 18%;
height: 0;
background-repeat:no-repeat;
}
```

Final: Test your assignment

Finishing this assignment, you will perform a performance test in Google Chrome.

Google Chrome: Page Load Performance: Right click > Inspect > Network > F5

Write down the result into a p-element in the following form: Number of requests, amount of data transferred in kb, DOMContentLoaded in Seconds, Load Time in seconds.
Remember to use Online Presets “Slow 3G”.

jsj@eaaa.dk

What is the difference between DOMContentLoaded and Load Time?

Upload a link to your online solution to Canvas (Assignments ->
Interaction_Development_Assignment 06).
Deadline: Tuesday, November 14 at 8.30 am

Spend all the time you can find: The goal is to optimize your skills in Responsive Web Design and Performance.
Skills you will need in Project 1.3.
Best, Jan

jsj@eaaa.dk