CS 641, Haik Sahakian

Mobile Web Development

Readings and Assignments
Week 8

Readings

❖ *D3*. Quickly browse this JavaScript library's website and look at its examples to get an idea of what it, and JavaScript-based graphics in general, can do. D3 is a popular graphics library used by the New York Times web site and many others. 5 minutes.
http://d3js.org/
https://github.com/mbostock/d3/wiki/Gallery
https://vimeo.com/29862153

❖ For a coding introduction to D3, please read the first two of Mike Bostock's excellent *Let's Make A Bar Chart* tutorials:
http://bost.ocks.org/mike/bar/
http://bost.ocks.org/mike/bar/2/
Please skip the third one in his series. 1 hour.

❖ *SVG Application Support*. An overview. Adobe Illustrator does a good job, many of you will have it. 1 minute.
https://en.wikipedia.org/wiki/Scalable_Vector_Graphics#Application_support

Readings

❖ *Scripting Inkscape with D3.js.* A good tutorial on integrating SVG files into a D3-based graphic. 5 minutes.
http://christopheviau.com/d3_tutorial/d3_inkscape/

❖ *Adding Vector Graphics to the Web.* The various ways to include an SVG image onto a page. Basically, you can either paste an SVG's text directly into your HTML, or you can reference the image with an OBJECT tag. The IMG tag displays SVGs visually, but it doesn't allow JavaScript to read inside the file; OBJECT allows that. 5 minutes.
https://developer.mozilla.org/en-US/Learn/HTML/Multimedia_and_embedding/Adding_vector_graphics_to_the_Web

❖ *Class Examples.* The examples from class are on my Pace site, including one I made after class to show an Illustrator image integrated with the existing code.
http://webpage.pace.edu/hsahakian/examples/graphics/accelerometer/

Readings

❖ *Crowd Simulator.* By Branislav Ulicny, one of the writers of three.js. An example of real-time web video. Just watching a few seconds of this video is fine.
https://www.youtube.com/watch?v=5T9j9d9H7co

❖ *How to use the top ES6 features today.* Optional. An introduction to recent JavaScript features, with examples. This will be useful to those who found last week's ES6 video very technical. 10 minutes.
http://www.creativebloq.com/javascript/how-use-top-es6-features-today-21619337

Assignment

- ❖ Choose a graphics editor that can save images in SVG, and install it on your computer.

- ❖ I recommend Inkscape (free) or Adobe Illustrator (if you have it).

- ❖ Time: 5 minutes.

Assignment

❖ Create a bar chart in SVG format using a graphics application such as Inkscape or Adobe Illustrator.

❖ Integrate this chart into your web page from class that displays a phone's accelerometer details. The chart can either be pasted in as text or embedded with the <object> tag.

❖ Test it on your phone, and post it to your Discussion Board thread.

❖ This task may look complex but very little coding is actually required - only about five words need to be typed. Tip: use the same class names that we used in class.

Assignment

Create a D3 visualization from scratch, of a data relationship that you find personally interesting. This gives you a lot of freedom to work on any data visualization that you find interesting. However, here is a suggested path:

❖ Choose two sets of data who relationship you would like to model. For example, sales of Born to Run against the popularity of jogging since 1975, or how your native country's happiness level has changed as technology use has increased. Either find data sources and create a JSON file of your data (recommended), or use web services to obtain your data at run time (more difficult).

❖ Imagine an appropriate way to visualize it. Some designs are literal (eg. running shoes as points on a jogging path-themed line graph), and others try to make a complex data relationship easier to understand. Create a design that you think will express the relationship well, and that will be instructive to the reader.

❖ Create the design in SVG, either by hand for simpler designs, or with a program such as Inkscape or Illustrator.

❖ Use D3 to link your data to your SVG.

❖ Please post your app to your Discussion Board thread. An extra 100 points of extra credit are available for impressive pages.

Have a good break!
Our next class is on March 31st.