Homework 3

Due: November 8, 11:59PM

In the previous assignments, we have presented the tension between coding and using tools to present visualizations as well user-focused design considerations. Programming the visualization was limited at best or not even required, this assignment has you put together a more complex dashboard-style visualization using client-side data viz technologies such as HTML, CSS, JavaScript, and SVG based charting libraries.

In this assignment, you will be building a dashboard that details the energy consumption and production for the town of Springfield (from the Simpsons Television show). The data is real data from actual energy usage, but we are removing such data to focus on the charts and give you some room for fun if you like.

We provide a screencast here that details a working dashboard to replicate. A version of this dashboard was approached using the ZingChart library during the discussion. **You will not be able to use this library but are asked to use HighCharts only**. If you have a desire or willingness you may be given clearance to do this in D3 with TA or Professor approval, otherwise, all executions must use HighCharts. We also will provide all the data to replicate the chart as well. The data is uploaded on slack.

Submission:

Your submission should include a directory that is named *YOURLASTNAME_PID_HW3* where each italic piece represents your particular last name and PID. The directory must contain the following files:

- index.html - the primary document we will load
- main.css - any CSS you write that is custom
- main.js - any JS that you write custom to for your dashboard
- /assets - a directory that contains any 3rd party assets you are using such as highcharts.min.js, CSS frameworks, fonts, images, etc.
- README.md - a markdown file that explains any limitations of your turn in and any places you feel is appropriate to cite usage

Assume that if we just load a web server with your directory your example will load up in the current Chrome shipping browser.

The screencast provides an overview of all the features we expect to see. We have provided the CSS color names we have used here as well as the font.

Colors and Font:
Background color: #ece9e6
Text color: #333
Title Font-family: Playfair Display,Georgia,Times New Roman,Times,serif;
Grid/legend Font-family: "IBM Plex Serif",Georgia,Times New Roman,Times,serif;
For various logos: Refer to Fonts-awesome (eg., fa-chart-bar, fa-chart-pie)

Tip: Make sure you consider figuring out how things are named to look them up on Highcharts documentation (ex. shared tooltips, dashboard, shared interactions), data grid, data binding, Graphset etc.

Make sure you understand basic JavaScript event handling and DOM ideas to make some efforts easy. In other words, do small things first to build up to the full dashboard. For example, set up the regions of the dashboard with a dummy phrase "chart goes here" before trying to put a chart there. Try simple charts first and then add in more complex data and so on. Do note that in some cases you may not have to code something (ex. <details> tag in HTML) or may find you can start with a base function and extend it. Attempt to jump directly to the answer will make this much harder than it actually is and will be good practice and give you confidence when working on later examples where you have more latitude in what you plot.