

## Brienna Herold — Assignment 5

Link: [https://people.rit.edu/bkh4324/iste782\\_assignment5.html](https://people.rit.edu/bkh4324/iste782_assignment5.html)

**Description of tool:** My web visualization tool (Figure 1) shows different representations of my running data recorded by the Runkeeper app across the years 2014 – 2018. There are three tools that make up my tool. In order from the top, these tools are d3.js, Google GeoChart, and Google Bubble Chart.

**Ease of development with the tools:** It was easier to develop with Google Charts. The creators make it simple for you to extract the code and fuse your data with it. In my situation though, I had my data in multiple CSV and XML files, so I had to parse the data before being able to use it with the tool (code for this is in each .js file, as well as in py/parseGPS.py). Other than dealing with the format of my data, the ease of development for the tools was easy for Google Charts, a little more difficult for d3.js. Although d3.js has a steeper learning curve, it seems to allow you to be more creative with your visualizations than Google Charts.

**Intuitiveness of tool:** As per the Ware (2004) arbitrary/sensory symbols and affordance theory, my tool is somewhat intuitive in some areas, whereas in other areas its intuitiveness could be improved.

My tools come in the form of charts and maps, which are arbitrary symbols. The average school-educated American has overlearned the meaning of the scatter plot and map, so these plots are intuitive to this population and any other population that has been exposed to such graphs. The bubble chart is less commonly encountered, so it is possible that this tool is not as intuitive to use, although someone who has been educated in the use of the previous two tools should be able to easily extrapolate their knowledge to be able to understand this tool.

The interactivity of my tools is not very intuitive, according to the affordance theory. All tools require the user to interact with them, but it is not immediately clear by just looking at the screenshot that the user is able to interact with them. There are no physical properties to indicate such interactivity. One might assume that these are just pictorial graphs/maps. However, as hovering for interactivity is developing into a learned skill for web users, the user may try to hover regardless.

The bubble chart is the least intuitive tool to use. It requires the user to drag across a rectangular area to zoom into the data, then right click to return to a normal view. Moreover, the chart does not allow a legend to indicate what the bubble sizes' difference mean (elevation climb). The user would have to use deductive logic based on the title, or, after figuring out that the chart is interactive, view multiple data points to deduce the attribute.

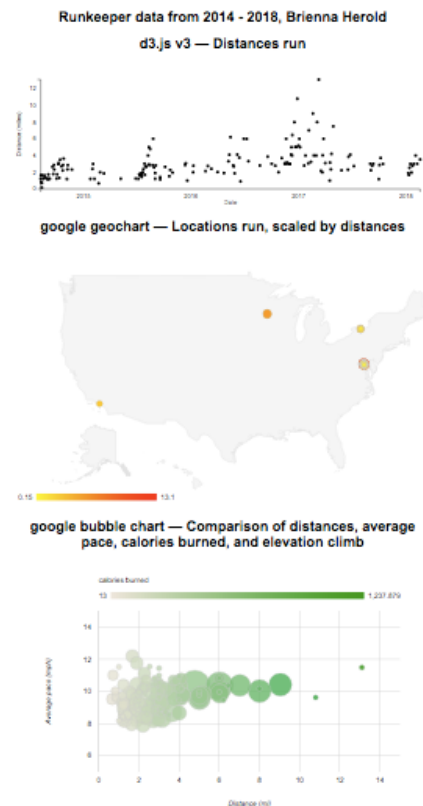


Figure 1. Web visualization tool comprising of d3.js, Google GeoChart, and Google Bubble Chart (from top to bottom).

## References

- Ware, C. (2004). Foundation for a science of data visualization. In *Information visualization: Perception for design* (2nd ed., pp. 1-27). Burlington, MA: Morgan Kaufmann.  
<https://doi.org/10.1016/b978-155860819-1/50004-2>