

Final Portfolio Reflections

Motivation

The focus of my projects, both the exploratory and narrative, was on water quality in New York City from 2010 to 2019 using 311 data obtained from NYC Open Data. Seeing as tracing has become a hot topic with the current pandemic, I was wondering if cases of waterborne illness could be traced back to water quality issues. To do this, I created the exploratory visualization to explore water quality complaints across all five boroughs and the narrative visualization was created to determine if there was a relationship between water quality and cases of waterborne illness.

Exploratory Visualization

This visualization is a dashboard comprised of a bar chart, a pie chart, and a legend for the pie chart. Hovering over a bar causes the pie chart and legend to update to reflect the borough breakdown of that water quality complaint. Hovering over a borough pie slice causes the bar chart to update to reflect the water quality complaint breakdown for that borough. This visualization shows us which boroughs have the most water quality complaints and the type of water quality complaints each borough make the most.

After the in-class critique session, I received some feedback that helped me to improve my visualization. Some feedback that I decided to incorporate into my final visualization was a link to the 311 website where you can make a water quality complaint. Another piece of feedback that I decided to incorporate into my final visualization was to make all of the visualizations into one line for a cleaner dashboard where the updates could be seen without having to scroll down or across the page. I believed that this was the most important piece of feedback that I received.

I believe that this visualization came very close to my prospectus as it functions exactly as an exploratory visualization for the user. If I had the time, I could have improved, or depending on your preference, altered the layout of the bar chart by rotating it

horizontally so that the bar chart would take up half of the page with the pie chart and legend on the other half of the page. I actually prefer the bar chart how I currently have it in my visualization as everything is in-line and clean, but with a horizontal bar chart it might come across as clustered.

Narrative Visualization

This visualization is actually a webpage that contains two bar charts and a scatter plot. The scatter plot contains a drop down to filter the data points by borough if you wish to see the individual relationship between water quality complaints and cases of waterborne illness for an individual borough. The bar charts depict the total number of water quality complaints and the total number of waterborne illness cases, respectively, for each borough. The bar charts are for comparison purposes so that it is easier to discern which boroughs have the most total number of water quality complaints and the most total number of waterborne illness cases as it is likely those boroughs will be the same or close to each other geographically.

After the in-class critique session, I received some feedback that helped me to improve my visualization. Some feedback that I decided to incorporate into my final visualization was to color my bars in the bar chart by borough as I have in the scatter plot to keep the association between the boroughs consistent throughout the visualizations instead of having each bar chart a different solid color. I thought that this was great feedback since it made it easier for the user to make comparisons between the two bar charts if the boroughs were the same color. Another piece of feedback that I decided to incorporate into my final visualization was to make all of the axes labels more explicit in regards to what is being measured. I found that this piece of feedback was very important since it alerted me to the fact that the user was not as familiar with the data as I was, which I needed to be reminded of since I spent so much time using the data.

I believe that this visualization came close to my prospectus as my chosen visualization do provide an insight into the relationship between water quality complaints and cases of waterborne illnesses in New York City. If I could have figured out how to use

the `d3.Regression` library, I would have loved to have used it to create a Regression line for the scatter plot to better show the relationship between water quality complaints and cases of waterborne illness. As some of the points are a bit spread out, it could be hard to discern directionality and a Regression line would have served the visualization well. A tooltip may have also been beneficial to the scatter plot, but is not really necessary overall since the focus is on the overall relationship.

Conclusion

Through the compilation of the final portfolio, I have realized that I have come a long way in learning and using D3.js. In the beginning of the semester I only had enough knowledge of D3.js to create a static bar chart, but now I can create fully interactive and linked dashboards as well as webpages with multiple interactive visualizations. I also gained additional and useful knowledge in using HTML and CSS.

I found that the critique secessions were really helpful in gaining useful feedback to improve and elevate my visualizations. I think that it was necessary to gain an outside perspective from someone who has never seen the project before and therefore has fresh eyes that could see something that we have probably overlooked since it may have seemed obvious to us. I also found that the tutorials and tutorial feedback at the beginning of the semester provided a solid foundation for the projects in the latter half of the course.

As a result of this course, I feel more confident in my HTML and CSS skills and now feel confident in using D3.js for interactive and static data visualization. Hopefully, I will be putting my new found skills to good use in the future.