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New York WiFi Networks Analysis

Of all of NYC OpenData’s datasets, the first one I found that caught my eye was a set of all public WiFi networks across the city. I had connected to a few of these networks before so I already had some experience with the contents, plus the set happened to have latitude and longitude built in, which made my life easier. It didn’t take very long to have the circles coming up, and I quickly mapped them by color based on whether or not the networks were free or limited. The other option was to color them by provider, but I found that free/limited coloring conveyed more interesting information (for example, the networks around Kissena Park surround its entire perimeter, and are all limited, while the dense cluster of networks in Harlem are all free). After some difficult color selection (being color blind occasionally has its noticeable downsides) I made some aesthetic decisions that make for a decently pleasing experience for the eye.

The provided template was very thorough. It was well commented and fairly easy to read and understand, especially as a Computer Science student who has had to decipher very cryptic code. After changing the latlon methods and radius methods to hook into my csv file, I had to mess with the color function and the sort by function to be more versatile. One of the coolest tricks I implemented was the ability to sort by different categories; you can show only free networks, limited free networks, or you can show only outside, library, payphone, or subway station networks. This required sorting by two different field names, which had to get changed depending on the index of the option selected. Getting color to change by network type was easy to do, but also added a considerable amount to the visualization.

It’s a shame there is no meaningful information about networks strength, because making the radii of the circles accurate to the signal strength of the network would really be a cool way to use this visualization. Unfortunately such information is nigh impossible to get accurately, nor is it particularly important. Another awesome idea would be to make a heatmap of the wireless spectrum throughout NYC, which would also show cell signal usage. It would be interesting to see intense areas in densely populated locations, like Times Square. This would require live information and would be very hard to sample.

Finally, I have hosted my project both on my personal Stevens page at <http://personal.stevens.edu/~agincel/HST325Project1/>; I also hosted it on my personal website at <http://adamgincel.com/programming/NYCWiFi/>. I have to thank you for making us make this visualization; I showed it off at an interview for an internship position at Prudential which I was later offered! By proxy, this visualization helped me get a job. Thanks!