Debbie Brasier

LA 558 Web Mapping

Final Project Proposal

Chicago Crime Tracker

**Elevator speech**

My project will map historical crimes in Chicago, in order to show riskiest areas, in combination with neighborhoods and transit information.

**Expanded abstract**

My project will primarily map historical crimes in Chicago by using a couple of different sources of data. The first is simply a breakdown of crimes. The second is mapping out the locations of sex offenders, based on data from the sex offender registry.

To make this application of the data useful to residents and visitors of Chicago, I will also add layers for police stations, fire stations, parks and important transit stops. This will help people to better understand the risks of waiting for the bus or “L” in certain locations of Chicago.

**Technology**

1. Leaflet
2. Leaflet clusters
3. Awesome markers
4. jQuery
5. JSON

**Data sources**

The City of Chicago provides a lot of data in JSON format on its website, data.cityofchicago.org. The Chicago Transit Authority also provides data on is services at transitchicago.com/data/.

I plan to use the following data sets, and potentially add to the list as I continue working on the final project:

* [Crimes – 2001 to present](https://catalog.data.gov/dataset/crimes-2001-to-present-398a4)
* [Sex Offenders](https://catalog.data.gov/dataset/sex-offenders-938b3)
* [Police Stations](https://catalog.data.gov/dataset/police-stations-3a3a8)
* [Neighborhoods](https://data.cityofchicago.org/Facilities-Geographic-Boundaries/Chicago-Zip-Code-and-Neighborhood-Map/mapn-ahfc/data)
* [Neighborhoods (alternative JSON data)](https://github.com/chriswhong/chicago_geojson/blob/master/chicagoCommunities.geojson)
* [Transit information](http://www.transitchicago.com/data/)

**Challenges**

Relying on someone else’s data that I don’t know is a huge challenge. Also, integrating all of this data together could be overly complex and cause the page to load very slowly.

The sex offender registry contains partially masked address information, instead of latitude and longitude information. I will need to do some amount of data conversion in that data file to ensure it works correctly in the final project. The main challenge I see with this file is the masking on the data, as it will be more difficult to ascertain the actual location.

**Journal of work**

1. Sex Offender Registry Dataset
   1. This had 1248 rows of data, but somewhat masked addresses so as not to give the exact addresses of the offenders (example: 054XX W THOMAS ST).
   2. I initially tried <http://www.freegeocoding.com/> to get geocoded addresses, but this site kept mapping the data outside of Chicago, so I moved on to researching another bulk geo tool.
   3. I then tried <https://www.mapdevelopers.com/batch_geocode_tool.php> instead. I had to split data into groups of 100, but it worked really well, was fast and accurate.
   4. Just a bit more scrubbing to translate the .csv file into the array I needed for my project.
2. Chicago Neighborhoods
   1. I was able to add a geojson file to show the shapes of the neighborhoods as a layer on my map.
   2. While parsing the neighborhoods, I also populate a neighborhoods dropdown menu with the list of neighborhoods. I use jQuery to alphabetize this list.
   3. Because there are so many neighborhoods, I use a jQuery library called select2 to allow the user to pick from the list or type to filter matches.
   4. When the user selects a particular neighborhood, that neighborhood is highlighted on the map. I also zoom in on the neighborhood that is selected from the dropdown.