

Robert Fearon
Gracie Young

Assignment 3 Write-up

<http://web.stanford.edu/~gyoung/SFTrees/index.html>

Description:

The visualization we created helps users view trees in San Francisco. When a user first loads the page, an informative dialog box explains how the user should select points of interest and how they can use the tool to narrow their search of trees in the city. The user can select two points of interest and a distance from each point. Only trees that lie within both distances from each point will be displayed. Users can also choose to filter trees on the map by tree name. Searching "pine" in our menu filter will show only tree names that include "pine". Users can also click on a particular tree name in the list, which will show only that tree type on the map.

Breakdown of Work:

Robert worked first on mapping trees onto the map of San Francisco and reading in the relevant data, data cleaning and filtering functions for filtering by specific tree common name, and sorting the menu alphabetically, the intro modal, and radius calculation in kilometers.

Gracie worked on letting the user click to add points A and B and save location of clicks, adding responsive drag selection for each radius, and styling the page with bootstrap rows and columns. She also worked on transforming the original dropdown of tree names to a searchable list that filters trees dynamically.

Development Process:

We started fairly early on the project, and each spent about 20 hours over the last two weeks on the project. Our work in the beginning was fairly separate: letting the user select points of interest and displaying them, and then filtering trees by tree name. This made merging not too difficult. Filtering the list of tree names to display took a long time, and so did optimizing the code to keep it snappy. We had some technical trouble with github/Gracie's slow computer, but figured out a good workflow in the second week. StackOverflow was an excellent resource for getting unstuck on particular javascript issues.

Pre-Existing Resources:

Also linked in the code.

Formula to convert latitude / longitude into kilometer distance.

<https://stackoverflow.com/questions/27928/calculate-distance-between-two-latitude-longitude-points-haversine-formula>

Finding coordinates where clicked

<https://stackoverflow.com/questions/29261304/how-to-get-the-click-coordinates-relative-to-svg-element-holding-the-onclick-listener>

Filters tree names that appear in the dropdown based on what is searched StackOverflow Help to make list scrollable:

<https://stackoverflow.com/questions/21998679/css-how-to-make-scrollable-list>

W-3 Tutorial on Filtering list:

https://www.w3schools.com/howto/howto_js_filter_lists.asp

StackOverflow Help to add/remove list items:

<https://stackoverflow.com/questions/36884886/how-to-add-an-list-item-to-an-existing-list-of-items-in-d3>