
WinIt LLC

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Full-Stack Task

OVERVIEW

You will develop a minimal web portal with a data source on the back-end. The city of New York is a wonderful place to roam and ponder. Once in a while, you meet a tree. Your task today is to build a web portal which will ask for your location, and once provided, will provide information associated with the tree closest to you. There are a couple constraints.

CONSTRAINTS

1. In order to fetch someone's latitude and longitude in a browser, you can use a standard geolocation integration (https://developer.mozilla.org/en-US/docs/Web/API/Geolocation/Using_geolocation) , or you can use a module like react-geolocated (<https://no23reason.github.io/react-geolocated/#/>) in order to speed up the process.
2. Once you've successfully fetch the latitude and longitude of a person on your web portal, you must send this data to a back-end server (custom API you will develop).
3. This API must make use of the trees.csv data file (it is a subset of the full file downloaded from <https://data.cityofnewyork.us/Environment/2015-Street-Tree-Census-Tree-Data/uvpi-gqnh>) in order to find the closest tree to the location provided from the client-side. You may use any distance formula you'd like (simplest of which you can find here http://www.teacherschoice.com.au/maths_library/analytical%20geometry/alg_15.htm).
4. Once you've calculated the closest tree, send the data back to client and present it in a list. The following format would work just fine for presenting the data:
 - a. tree_id: ...
 - b. spc_lat: ...
 - c. And so on ...

SPECIFICATIONS

If you choose to, you can publish the code to Heroku/AWS/or any other web host provider. Regardless, I will run your source code locally on my own machine, so please provide a one-page document on how I should go about installing your module, and any other relevant information.

BELLS AND WHISTLES

If you'd like, you may expand this project as you see fit.

If you run out of time, explain in the document what you would have done differently or any other features you would have included. The goal is to implement this with the best practices in mind.

Here are just a few ideas of what could be added:

Geographical Distance

As opposed to using a 2-dimensional vector-based distance formula, you can calculate the distance on the surface of the earth (https://en.wikipedia.org/wiki/Geographical_distance).

Visual Map

You may integrate a third-party map GUI in order to show the user's location, the trees location, or both.