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MIS 3640

Professor Zhi Li

Assignment 4 Write- Up

Project Overview

Our project is a tool that returns the closest MBTA station, distance from location, and the time of the next train leaving from the starting location to the user- specified location. This requires the use of both MBTA and Google Maps API. We then write the Python code to get the desired results. Lastly, we create a 'website' that allows the user to input their location and will return the results mentioned.

Project Reflection

Per the professor's instruction, we were encouraged to add more functions to the project. We decided to add the variable 'time' which, in addition to the station and the distance, will give the time of the next arriving train or bus route. It worked well when there were only two variables: station and distance, but when adding the time, we encountered some obstacles, as the stopsbylocation query used in finding the nearest station does not include any information of time or schedule. We then had to refer back to the MBTA API documentation to figure out which query we can pull the time data from using the available data that we have, which turns out to be the schedulebystop query.

We did not have a good plan for unit testing. We often run the files on at least 2 separate computers and encountered several problems with regard to debugging. On several occasions, we found that we had tried different modifications on the two laptops, which led to us having to debug twice. When testing, we ran into two major errors. The first being cases of misspelled inputs which leads to the a HTTP 404 bad request error. By importing HTTPError, we are able to catch whenever such cases happen and stop the APIs from working. The second error arises when the location entered is not recognized in the Boston area. IndexError, then, comes in handy to catch such issues. However, after coding safety measures to catch the errors, we found that these things would either slow down the process or have the site not recognize the location and redirect the user to the index page to try again. We did some trial and errors, prettify the code, deleted the browser's cache and tried on a different browser.

Initially, we met up as a group and worked on it together, but we could not finish the assignment in one meeting. We decided to divide the tasks: one person is responsible for the APIs and key and getting it to work, two people lead the Python coding, and one person focused on the HTML. Then, we meet again to integrate it together and make sure that it runs. We also could have utilized Github a bit more. Since we are not really accustomed to Github, we usually just send the updated files to one another through Slack, which makes it a little inefficient as it is harder to keep track.