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Assignment 3: Web App Development – MBTA Helper

1. Project Overview

In this project, I have used two APIs ‘Mapquest’, and ‘MBTA’, to write functions that are able to determine the coordinates of the user when a place, name, or address is given, and find the closest MBTA stop to the said coordinates. Additionally, I have written a function to use the coordinates of the given location and closest MBTA stop to find the distance between the two. In addition to the coordinates of the MBTA stop, the functions return whether the stop is wheelchair accessible or not as well. Lastly, I have written a function that uses ‘Mapquest’ API to gather the data on schedule of all trips at the closest MBTA stop, and return times of upcoming trips. All of the above functions are used in a web application created in ‘flask’ that allows the user to input a location in order to get the above-mentioned information easily.

2. Project Reflection

From process point of view, I believe that the entire project was completed very smoothly, because I have created a structure for the entire project by defining necessary functions before beginning to write the code. Additionally, although reading the documentations for each of the API and additionally packages that were used in the project carefully took certain amount of time, it overall made the process of actually writing the codes easier and faster. Another thing that allowed me to better complete this project was designing functions that allowed for easier unit testing. This allowed me to test my code very efficiently and find the problem easier. One thing I could improve is to not make the functions overly specific, because it makes it harder to be used when creating new functions, especially if the additions were not planned initially. Overall, I would say the project was appropriately scoped, but trying to understand how to better use ‘MBTA’ API in order to implement the schedule of upcoming trips took a lot of time as the API is very big.

One area where I had to self-study a lot was in researching how to use the two APIs. Another area was in how to create flask app and design web page, which made wish that I knew how to write in html and css before starting this project in order to create more elaborate web pages. There are many applications to use what I have learned through this project. First of all, understanding how to use API will greatly help me in future projects as APIs are essential in creating many applications. Secondly, although I have only learned the basics, understanding how web pages work and knowing the basics of how to create web app through flask will give me a footing in utilizing web apps in the future.