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Assignment #3: Project Write Up and Reflection

I. Project Overview

In this project, I have developed a simple website that returns the nearest MBTA stop with wheelchair accessibility details to a user who inputs a location or address. To do so, I first handled the geographical data by accessing two web APIs, MapQuest and MBTA-realtime API. Using the latitude and longitude coordinates of the user's chosen location from the MapQuest API, we can find the nearest MBTA stop and whether or not that stop is wheelchair accessible from the MBTA API. I combined these functions to create a tool for the website using the web framework Flask. The home page of this website greets the user, and includes a form in which the user can input a location or address of his/her choice. This form includes a simple validation on the user's input, checking if the field has been populated by the user. Once the user submits a location or address, the website redirects the user to another page that informs the user of the nearest MBTA stop to the location, as well as whether or not the stop is wheelchair accessible (retrieved from the tool I created). If the user submits an invalid address or location (perhaps one that doesn't exist or one that is far from the Massachusetts Area), the website will redirect the user to a page that informs him/her that no MBTA stops exist, and provides a link that redirects the user to the home page for a new input. In addition to using HTML to build the website, I added some style to the appearance of the website using simple CSS.

II. Project Reflection

Upon completing this project, I found that extracting the data from the APIs was straightforward since we have had in-class exercises doing so using json. Similarly, using Flask to build a simple website was not too difficult, considering the web-app demo that was provided to us prior to this project. Given my concerns regarding the appearance of the initial website with solely HTML, CSS was definitely a useful and fun tool to play around with to improve the website's appearance. In terms of self-studying, the documentation provided to help us complete the basic requirements that we have not yet gone over in class (URL encoding, redirecting, input validation, etc.) were relevant and helpful for self-navigating this project.

Even though the resources were helpful, I did find it difficult to self-learn carrying out the requirements stated above, and hope to seek more 1:1 help from my professor in the future. Since Flask is an extremely different concept from the topics we've learned prior in this semester, I found it challenging to self-learn components of Flask and HTML in addition to familiarizing myself with Python in general. Because I spent much time trying to figure out the basic requirements, I was unable to approach the optional components of the project. I hope that, in the future, I familiarize myself with the basic concepts ahead of time so that I could work on further improving and going further (such as making the website more dynamic with jQuery).