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Goal:

Implement a website that dynamically displays data regarding the occupancy of different Study Buildings so that students can use it to determine where to study and how crowded a building would be on any given day.

Front End:

Necessary Imports: Flask

* Flask was used to implement the front end of the website by integrating Python and HTML to allow the user to create a dynamic website. Flask uses several website templates in order to set up the website’s framework. Flask was chosen with the intent to use RestAPI in order to obtain the data for the WiFi signals around BU campus. Flask offers API support while Django does not.

Programming Language(s) Used: HTML, Python

Back End:

Necessary Imports: classes, openpyxl, requests, os, location

* Classes were used in order to hold our data for each BU building and its corresponding floors with major study areas. The two classes that were used were a building and a floor class. Floor is instantiated first and then put into the Building class to account for buildings with different amounts of floors.
* openpyxl was used to read in an excel file into the back end of our code. In order to instantiate our dummy data in the program with initializing each variable in the main, openpyxl was used as it is able to read and write to Excel files. Once the variables were moved, they were used within the project as data for each BU building.
* Requests were used in order to obtain information about the user using the IP. This was used to request from an IP API that gave the IP of the user of the website. This is then used in order to obtain the latitude and longitude of the user for potential calculations concerning distance between the user and the buildings. It was found later that The API would sometimes return a Null Value and cause the Code to crash. As a result, the framework to get the location remained but was not used
* (Scrapped) was originally going to use SQL and Rest API to access and implement code from the BU databases, but upon meeting with our Contact from the IT department it was deemed too ambitious.
* OS was used to create the file paths to import images into the website

Programming Language(s) Used: Python