Traveler

***Motivations:***

Because I often use the website FOURSQUARE to search for the place to have dinner or places to take a break, especially when my family are having fun outside the county of home. It provides a lot of information about locations of food 、shopping and coffee shops, etc. Indeed, the website is so convenient that helps the user save a lot time to search plenty of websites and reorganize the pieces of information in it. Although it shows the address and the location on Google map, I am still strange to these destinations. If I want to know much more information, I still have to use search engine to search for the comments about these locations.

***Overview:***

As a consequence, I want to write a program that prompts the user to give me the URL of FOURSQUARE that has been searched, and I will return the detailed information back. After the user view the information, the user can give me the address which is preferred to go, I will return the route to the user.

***Project planning:***

Since I will get the URL from the user, I should use urllib or beautifulsoup to crawl the website and get all the address of the shown locations. Then, I will use Places API Web Service, the API from Google, to give the detailed information about these locations, including the comments from other people. As the user give me the two addresses, I will use Distance Matrix API, the API from Google as well, to calculate the time takes between the two locations, and give the user a scheduled route.

***(1)User interaction:***

All in all, the interaction with user is easy. The user gives me the URL of searched page of FOURSQUARE, I will show the comments and other detailed information. After the user view the comments and decide which one to go, the user give me the address where to start and the selected address, I will return the schedule route and how much time it takes, which should be image, if the Directions API works as I think.

***(2)Tasks:***

I break the project into 4 parts. First of all, I will spend about two or three days to crawl the FOURSQUARE, and scratch the address part I need. Then, I should spend more or less one week to familiar with Places API Web Service, which I am totally strange. After finishing the parts that I could return the comments or detailed information to the user, I will go on to deal with Directions API. I think I need one week as well to familiar with the strange web API. Eventually, I will spend two or three days to check my code and ensure it works. Furthermore, I have to spend a lot of time for my final exams. To sum up, I think I will finish at the week of 1/15, before the deadline.

***Grantt Chart:***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | 12/28 | 1/4 | 1/11 | 1/13 |
| Crawl the web |  |  |  |  |
| Places API Web Service |  |  |  |  |
| Distance Matrix API |  |  |  |  |
| check and revise |  |  |  |  |

<Update 1>

I have completed the part of crawling the web, giving the detailed information of the destination. Because the Places API Web Service needs place id, so I add one more api called “geocode api” to get it. As the user gives me the url of searched foursquare, I can give back the “phone number”, “name”, “comments”, ”formatted address”, “the link of the position on googlemap”.

However, the Distance Matrix API cannot encode the two address that are in Chinese, and I cannot work out with the picture of the route about how to get the destination. But the user could get the route and the time it takes from the link I give,

All the user have to do is go to the link and press the button ‘’plan the route’’.

Moreover, I will do better about the user interaction. I will display the destinations on the screen, and the user could choose the one to see the detailed information until they don’t want to.

Finally, I think I could finish on 1/15 or 1/16, the few days after the final exams.

<Update 2 >

I tried to show the route from the address, entered by the user, to the destination that the user chooses. However, I tried a lot and failed to present the picture of the route. So, I think the user should copy and paste the link of googlemap, which has set the route from the user’s location to the destination, as the user press the button of ”plan the route” .

On the other hand, I find the solution of the Distance Matrix API. The API cannot encode two addresses that in Chinese. So I convert the address to the form of latitude and longitude. Then it works!

<Run>

First of all, I will show the choosing item (1. food, 2. coffee, 3. drink, 4.art, 5. shop) for the user to choose. After the user enter the item, the program will ask for the user to enter the searching county. Then, the screen will show all the searching results from [www.foursquare.com](http://www.foursquare.com) for the user to choose. As the user enter the chosen one, the screen will ask the user “which detailed information (1. address, 2. phone number, 3. rating, 4. comments, 5. distance and time, 6. link to googlemap) do you want to see?”. It will show the corresponding information of number the user entered. If the user wants to search another destination, the user can enter “B” or “b”. Then it will show the searched results again. If the user wants to exit the program, then the user should enter “exit” at either the searched page or the detailed information page. Last but not least, if the user wants to search another type or county, the user should exit and run the program again.

<Library>

The user should install the libraries below if the version of python is under 3.

1.pip install json

2.pip install beautifulsoup

3.pip install urllib