2/19 – 3/4

Group number: 34

Project title: Semantic Visit Aware Recommendation of Hotels

Client &/Advisor: Goce Trajcevski

Team Members/Role:

Dylan Hampton – Frontend
Zachary Garwood – Backend
Thomas Frohwein - Frontend
Britney Yu — Backend
Joe Zuber – Backend
Nathan Schenck – Frontend
Kevin Knack – Backend

Weekly Summary

In the past two weeks, the front-end team has been working towards getting integration with the backend of the application up and running. We have finished the functionality of retrieving the cities and point of interest categories from the server on page-load. Aside from that, the front-end members have been researching and experimenting with MapBox's API and components to understand how we will design the code for drawing on the map. Lastly, as we get into the more complicated portion of the project we have started to set up processes for automated testing and deployment to guide and help development. The main objective these past two weeks, for the back-end, has been to get integrated with the front-end. The largest part of this has been getting the route generation to a point that is usable by the front-end. We put in work configuring the VM environment to run the client's code alongside Flask. Work was done to format the resulting routes in a way that could be used by the front-end. Lastly, we added more information to these results like the origin hotel name, so that this information could be displayed.

Past week accomplishments

Zachary Garwood: Made a few final touches to the backend CI/CD to get it up and running. Setup an environment on the VM to get the client's code to run. Created endpoint to give information about cities and the corresponding PoI categories for each city. Created endpoint to generate routes based on certain criteria like the algorithm type, number of origins to return, list of PoI categories, etc. This endpoint's response included the nodes in a path, the origin node, the distance traveled, and the PoIs along the path. Formatted the output of this endpoint into a JSON to be used by the frontend. Added hotel names to the origins in our dataset.

Dylan Hampton: Met with Xu to better understand how the algorithm and provided code works. Worked on researching MapBox API, investigated how to place markers on a map. Set up the testing environment for the front end React components. Created a suite of tests to begin testing the functionality of the front end. Worked on adding testing into the continuous integration for the front end to regression test front end components.

Nathan Schenck: Worked with the backend team to get the functionality of retrieving cities and points of interest categories on page load functional. Ensured the functionality was well tested and the possible event flow scenarios were all taken care of.

Thomas Frohwein: Worked on looking into packaging input for the backend to call the algorithm with a set of inputs and retrieve a generated route. Met with Xu with the team to understand how the algorithm works and what is needed to accomplish our goals.

Britney Yu: Met with Xu to clarify algorithms and understand the python code in the gitlab. Learned about the flask documentation because I needed to help fix the structure of the backend's code to help make it easier to organize our code and folders.

Joe Zuber: Met with Xu to learn about some of the functionalities of his code and how we should proceed. Met with the backend and discussed goals, created tasks for the board. Learned about flask and how working on the backend will work from here on out.

Kevin Knack: Met with Xu to get a better understanding of the code he wrote and how we can utilize it for our project. Started learning python to better understand how the code is working. Started analyzing the code after meeting with Xu to fully figure out how it all works together. Worked on figuring out why there are multiple nodes with the same latitude and longitude and different points of interests and how to fix that problem.

<u>Pending issues</u>

- Node ids seem to be out of sync with one another in the index matrix, PoI network, and origin dataset - Backend
  - Sometimes different node ids have the same latitude and longitude with different PoIs
  - Sometimes the same node ids have a different latitude and longitude
- Integrating front end component testing to continuous integration is not running properly - Dylan

Individual contributions

NAME	Individual Contributions	Hours this week	Hours cumulative
Thomas Frohwein	Looked into packaging input to send to the backend and retrieve a generated route from the algorithm. Met with Xu with the team to understand more of the code.	3	17
Nathan Schenck	Created the frontend processes for getting city and PoI categories on page load.	*4*	*25*
Dylan Hampton	Set up front end testing environment, worked on creating tests for front end components, researched MapBox API for creating map markers	6	25
Zachary Garwood	Backend CI/CD, setup VM environment for client's code, city and PoI category info endpoint, route generation endpoint, added hotel names for origins	*6*	*27*
Joe Zuber	Read through a lot of Xu's code and our backend project's current code. Learned the backend's new processes with flask. Had lots of productive conversations with teammates at meetings.	6	16
Britney Yu	Learned how to structure the backend's code and am in the process of reorganizing the backend's flask files	4	15
Kevin Knack	*Analyzed how backend code works and started fixing their being multiple nodes with the same latitude and longitude with different POI's*	*3*	*16*

Plans for the upcoming week

Zachary Garwood: Help look into a potential issue with the indexing matrix, PoI network, and origin dataset being out of sync with one another. We noticed that there were different node ids that had the same latitude and longitude as well as the same node ids in separate files not having the same latitude and longitude. After this, begin looking into creating new datasets for cities other than New York City, which was the dataset given to us by our client.

Thomas Frohwein: Continue researching MapBox API and how we can potentially generate routes with information given by the user and with algorithms developed for us by the client. Begin to integrate the backend with the frontend so we can communicate with the server. Package inputs for the backend so we can get a generated route and begin to show it on the frontend.

Nathan Schenck: Continue working on front-end implementation through work tickets we have created on our project management board. Work will be focused on creating the data models for the routes and points for the map. Other UI components will also be a focus as we near the more complicated portion of our project.

Dylan Hampton: Work on creating more test cases for the front end components to get greater coverage of all components. Finish work on continuous integration to ensure proper testing of the front end functionality before deployment. Work with other front end members to create markers on the map based on data received from the backend.

Joe Zuber: Continue learning about flask and our project's code structure. Spend some time restructuring backend code by splitting it into functions and adding comments to make it more readable. Think about ways to potentially add a new city and ensure that backend code will be able to fit the functionalities that would be required by a new city.

Britney Yu: I still need to restructure our code's structure which should be able to be fixed very soon. My plans for the upcoming week is to help with some of the data storing for the algorithms and hopefully start to work on getting the data points for the hotels, latitude and longitude, and other variables mapped.

Kevin Knack: Figure out why there are multiple nodes with the same latitude and longitude but different points of interests. Start testing to make sure the backend is producing the correct paths for the frontend. Look into how the backend can start adding new cities other than New York to the application.

Summary of weekly advisor meeting

We met with Xu Teng and our advisor to discuss the given algorithms for our project, and asked questions about areas we were unsure of. This meeting discussing the algorithm was in place of our normal bi-weekly meeting, so we did not have a formal meeting to discuss project progress with our advisor.