

Development Log

This development log is compiled from files committed weekly as well as from meeting minutes and daily Zoom calls over the past week:

November 14, 2020

We met for the first time and exchanged netIDs, discussed the project goals briefly, and decided that we needed to review more of the graphs material and look more into datasets. Also, we agreed to meet weekly on Saturdays at 6pm Central each week over Zoom and we also formed a Discord server to discuss things in real time. We submitted our team names on November 9th.

Over Thanksgiving break on November 21st:

The group discussed briefly before Thanksgiving how we plan to review old lectures and work on MP_regrades. In the week before Thanksgiving Break, we met and put together our Team Contract as well as our Project Goals which included one BFS Traversal, Landmark Path, and Dijkstra's Algorithm. We left it very open ended in terms of what we could implement so we could potentially change our algorithm, but we firmly committed to implementing a Graph based OpenFlights Dataset project. We met up on 21st and familiarized ourselves more with Git and got used to pulling and merging and how it impacts everyone else.

November 28th, 2020

All members committed multiple files to our Github repository and are familiar and will always type git pull before working and we learned how to commit with git add -A and specific files. We decided that before allocating certain algorithms to individuals, we needed to decide how to utilize the OpenFlights dataset to setup our graph. We planned to make a basic Makefile based on old MP code. We decided to utilize latitude and longitude as our core data points, and to use a vector to take a pair of doubles to calculate distance as our weights.

December 5th, 2020

We met again for our regularly scheduled Zoom call. We discussed on our mid project checkup with our TA Mrinmoy. He planned out our next steps in terms of implementing our graph, getting Makefile working, algorithms, and traversal. We'll continue working throughout the weekend and aim to complete the project by Wednesday and check in with our mentor for additional feedback. We assigned roles and tasks and will check in regularly with everyone over Zoom calls. Have working Makefile and setup edge and graph algorithms traversals Openflights and were told we are on track to maintain our timeline/goals. Rahul and Alaa met up with work on Traversals, Chidambara and Praneeth joined after and we all did pair programming for several hours throughout the week. All of us worked on implementing and meeting test cases/debugging.

December 11th, 2020

We focused heavily on Dijkstra's algorithm as we finished BFS very quickly. We eventually completed Dijkstra and passed many test cases and complex graphs online but by inputting integers. We also completed Landmark as it was similar to Dijkstra. We met with another TA on December 9th and met again with our mentor on December 11th to go over our code which was approved as working but it was suggested that we implement based on actual dataset test cases. When implementing the UI as recommended to read inputs from user, we noticed that our graph

was not loading vertices and a host of IO bugs which we ultimately resolved. We got DFS working as well and outputted the results neatly in multiple formats. Prepared our presentation, powerpoint, results pdf, and recorded our video. We worked very hard this entire week, last two weeks mostly in constant Zoom calls and use of annotation to draw out graphs and debugged very effectively.