

Dev Update

Initial Tickets Issued:

- Implement the DAL
- Create Load Test
- Hook up CSV to DAL
- Hook up Data points to DAL
- Create Axis selection
- Allow the user to scale the graph
- Axis labels scale with data

All of these tickets were completed during this sprint, allowing us to get a MVP of the project in which the user can go to the website, choose whether to look at a file from URL or local system. After the choice is made, the program will parse through the file and once completed, will let the user know. Once that message has been displayed the user then chooses 3 axes in which the points will be displayed. Additional things the user can do after this stage is scale the graph up or down in size and select data points to see additional information.

Load Test Results:

Our load test at the beginning of the sprint had shown us an extreme performance issue, with the framerate getting unbearable past 5000 data points. Our team made early investments into seeing how we could improve this. We replaced the 3D spheres with 2D images at first, which allowed us to push to 20000 points, but it broke our interaction with the points. To fix this we reduced the amount of faces that the 3D point would render, to the extent it became a tetrahedron. During our bug party, we found that it was usable but laggy past 5000 and the hard limit of it being unusable was 10000 points

I don't believe there is much more we can do to improve the performance since it seems to be the rendering of so many points on the graph so it's more of a hardware limitation with the oculus not giving enough resources to the browser to handle that much rendering.

Incompleted:

- PCA axis subset selection
- Movement of the graph

We had made some investments towards the movement of the graph but we were unable to complete it due to other higher priority issues taking its place. The PCA axis selection did not get completed due to the late completion of the DAL. Currently we have the ability to calculate the PCA of the whole data set and display those data points, but we chose not to allow the user to do that due to the PCA being off. So as of right now the data being displayed is just the raw data passed in via CSV, but the foundation for hooking up the PCA is there, we just did not have enough time this sprint to get it implemented.