Nylogan2
Cgordon5
Ndarand2

Team Goals

We are planning to use OpenFlights as our data set, as we think it allows for the most interesting analysis into graph behavior as well as an interactive, intuitive interface. OpenFlights database contains over 3,000 airports and over 67,000 routes in between them. We will mainly focus on the airport database containing airport specific information (to map the coordinates of each airport) and the route database containing the sources and destinations (to use as a basis of our nodes and edges). One thing to keep in mind is that these edges would be directional. We were hoping to implement several features that are listed below in detail.

The first would be the graphical representation of our data onto a map. We think it is likely that we would use our CS225 library of PNG and HSLApixel for this part. We already have plans to translate latitude and longitude coordinates given in the airport database onto a mercator projection to make this modeling easier to implement.

Hand in hand with our rendering of flight data, we would like to add an animation as each flight/ferry/train path is generated to make it more aesthetically pleasing, likely scaling with the number and rate of flight rendering to improve both performance, appearance, and time constraints.

The least flashy of our goals -- yet the most important -- is the graphical analysis in itself. Given that the number of edges is not equal to n*(n-1)/2 where n is the number of airports, we can assume that each airport does not have a corresponding flight to every other airport in the set. As a result, we would like to implement a *shortest route* feature for both distance and/or number of nodes traveled, that takes two destinations as parameters. We would also like to generally indicate levels of traffic through nodes (airports) for the user, but have not yet settled on the method we would like to use (I.E color coded dots based on number of flights per time). We believe that as we become more acquainted with graph data structures that our list of goals will only increase, and if it does so in the future, we will post an updated goals sheet to the shared github repository.

All of these goals will be collaboratively worked on by all the members of the group, but we will likely assign a singular individual to each, to lead point and take the initiative to solve major issues that arise in their designated categories.

The bulleted list of goals is listed below to summarize the above:

- **Dataset**: *OpenFlights*
- **Algorithms**: graphic output of graph to PNG, shortest distance between nodes (Dijkstra's Algorithm/Floyd-Warshall Algorithm), traffic ranking, database parsing, basic graphical functions.
- **Other utilities**: Basic animations