Project Proposal

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Project Goal

For the final project, we will build a graph on the OpenFlights dataset and implement several functionalities on top of the basic graph. Specifically, our project will be able to find the shortest path between any two nodes. In addition, it will also verify if passengers can go to every airport in the graph from any other airport. If we have extra time, we would also like to explore other applications, such as projecting the graph onto a world map.

Dataset

We will use two datasets on https://openflights.org/data.html. The airport database will be used for vertices on the graph, while the route database will be used for edges.

Algorithms

Graph traversal (BFS)
Shortest path
Strongly connected component