Shortest path calculation:

In an emergency vehicle dispatching system, the shortest path to reach from the source to destination is required after checking with the request and the availability. In our project, we have used the **Dijkstra's algorithm** to do so. This algorithm has been chosen as it is most famous among solving many real life routing problems.

We have set two files for getters and setters of the nodes and edges. In our request java file, upon accepting the request, the dijkstra’s algorithm will provide the shortest path from the source zip code to the destination zip code. The data that contains of all the zip codes has been stored in a text file named distance. Once the input file has been read, shortest path is calculated using the method compute where in the input is taken in 3 that is the source, destination and edge format. After the logic has been performed, the output is stored in another text file displaying the shortest path of the source node (from source zip code) to all other nodes available.

This code was then integrated with the Request.java file which will allow the shortest path algorithm only when necessary through providing some conditions.

Reference:

https://github.com/marvinjason/dijkstra/tree/master/src