# 07/12/2021 - Meeting

The formula for calculating the distance between two geographical points can be calculated by using the formula found on the following web page: <https://www.movable-type.co.uk/scripts/latlong.html>

I will be using this method found on the above page, which uses the perspective of a curved map and not a planar one. That Is because I want it to be realistic in terms of real-life usage and provides an accurate calculation which can be implemented in a fairly short time frame

By using the following formula and obtaining the coordinates from each node found in the geojson file[[1]](#footnote-1), the distance in kilometres can be obtained.

In the last meeting two options regarding the path finding methods, were introduced. It is more optimal to use the first one suggested, where the paths between nodes, as well as the node coordinates, are already defined in the geojson file. That way, the use of live GPS location, can be avoided as I believe it is less optimal and unnecessary during this stage of the project and that it can be implemented in a future update. That is because I contacted my industry contact and he told me that it would be more optimal to showcase the algorithm itself and then in future updates, adjust it so that no predefined paths are required. Then using Dijkstra’s algorithm, a more optimal path can be produced between the specified nodes. The implementation of the algorithm exists from a previous project of mine and just needs adjustment to fit the needs of this project.

There is only one focus point discussed in the previous meeting that must be completed is to load the geojson file to process the coordinates. I gave it a look but focused more on Dijkstras algorithm and how to calculate the distance.

**Focus points for next week:**

1. Complete Dijkstra’s algorithm and adjust it to the project data.
2. Load the geojson file.
3. After loading the geojson, apply the distance calculating algorithm and Dijkstra’s algorithm to test that everything works as they are planned.
4. Research for databases to get real data, for testing purposed. These data will be used for adjusting the weights on the nodes.

1. https://github.com/geoiq/gc\_data/blob/master/datasets/25.geojson [↑](#footnote-ref-1)