Overlapping nodes

This file shows the example of overlapping nodes and explains the approach taken to remedy it (implemented in “removeExtraNodes” function).

This is a graphical depiction of the overlapping nodes problem drawn using XFEMM:



There are in total 4 nodes in the above plot and two nodes are overlapping. The purpose is to remove one of these overlapping nodes from the FemmProblem struct which contains the list of x and y coordinates of each node added to the problem. To do this, the coordinates of each node are compared with the coordinates of other nodes in the list. If the same node already exists, then this node is deleted. For each segment, FemmProblem struct contains the location information about its end nodes in the list of nodes. Since extra nodes are removed, node locations are changed and end nodes making the segments are renumbered accordingly.