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**Path finding algorithms and suitability for inclusion in the tiny tank game.**

## Dijkstras

Dijkstras algorithm is an improvement to the simple “depth first” algorithm that allows us to get the shorted path between two points.

Dijkstras works well if the end point is unknown but an end type is as it “scans” out until a node of a given type is found.

This can have the downside of taking a long time to finish due to the number of nodes checked

### **Suitability**

For my tiny tanks game in it’s current state Dijkstras is unsuitable, as the end point (node closest to player) is always know.

### **Changes to code**

Currently the enemy moves to random points on the screen It uses neither a steering behavior or a path for this, both would need to be implemented to use this algorythim.

## Astar

The Astar algorithm is an improvement on Dijkstras. It uses a heuristic to “guess” which node to select next to create the shorted path.

Astar can only work where the end point is known.

### **Suitability**

In my version of tiny tanks the end point is always known, making Astar the perfect path finding algorithms for this project as it is also the most efficient out of the algorithms tested.

### **Changes to code**

Currently the enemy moves to random points on the screen It uses neither a steering behavior or a path for this, both would need to be implemented to use this algorithm.