**A\* pathfinding enhancements**

**Requirements**

Google Chrome(web browser)

**Usage**

After downloading the project files, they need to be un-compressed or unzipped and all containing files need to be in the same folder.

**Running**

“index.html” file is to be run on the web browser.

“Toggle grid” switches between gridding and un-gridding the map.

From the drop down Environment Map, an environment map from following maps can be chosen: Default, slow map, damage map, one way map, sparse caves, dense caves, small maze, medium maze, large maze, StarCraft: Wheel of War, blank, Newfoundland Map, test, L-shaped.

From the search algorithm dropdown, a search algorithm can be chosen from A\*, weighted A\*, Breadth-First search, Depth-First search, uniform cost search, greedy best-first search.

The object size drop down allows the user to choose the object size from between 1x1, 2x2, or 3x3.

The legal action drop down lets the user choose between 8 directions and 4 directions.

The heuristic function drop down allows to choose between, 8 direction Manhattan, 4 direction Manhattan, 2d- Euclidian distance, or no heuristic.

There is a drop down named set health to select the initial health of the object which ranges from 5-200.

User can select the damage for orange tiles which ranges from 0- 50 and the cost multiplier of black tiles from 0 -10.

The purple tiles are one direction tiles. The user can check appropriate boxes to allow the object to pass through purple tiles in certain directions only.

Visualizations can be chosen from between, instant path + open/closed nodes, instant path only, animated search, and single step.