

ETGG4803

Lab3: **Pathfinding**

Graded Points: **40**

Assigned: **9/5/2017**

Due: **Batch #1** (10/2/2017 @ end of class)

Possible Points: **60**

RESTRICTION! You may use a game engine, but don't use its pathfinding routines!

Tasks:

1. **(15 points)** Parse an obj nav-mesh and construct a graph structure from it. Draw the nav-mesh.
2. **(10 points)** Be able to select a start and end node – dynamically (i.e. if the user drags) solve for shortest path. Don't store any pathfinding-related data in the nav-mesh graph!
3. **(15 points)** Implement A*. Display at least the chosen path.
4. **(4 points)** Visual Improvements: show the visited nodes
5. **(6 points)** Implement the other (pre-A*) "pathfinding" routines (dfs, bfs, djikstra, greedy-first) [I'll pro-rate this if you only do some]
6. **(10 points)** Convert a nav-mesh to a format suitable for jps. Implement the jps algorithm.