

Title: Pathfinding within a Hierarchical Navmesh Based on Geometry Analysis

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Abstract: Pathfinding is a common problem in the computer science dealing with navigation from a starting point to a destination point. Common algorithms today are mostly based on A* search on a graph representation of navigated world. Another common approach is creation of navigation structure of convex navigation meshes and navigating on them.

Our goal is to propose pathfinding algorithm on hierarchical navigation meshes, based on the terrain geometry, which benefits from complexity of hierarchical search yet provides paths comparable in length to reference ones. This thesis analyses and describes our proposed approach of navigation including generation of the navigation structure.

Keywords: navmesh, pathfinding, A*, hierarchy, terrain analysis, geometry