Implementation of A*-Jump Points Algorithm for Pathfinding in Behavior Trees from NPC’s Scenario of Game Food Merchant Saga.

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ABSTRACT

One container to implement artificial intelligence is on the video game. In the video game artificial intelligence is usually used in the NPC (Non-Playable Character). Artificial intelligence in NPC are the form of determination of behaviors, make decisions, pathfinding, etc.

In Game Food Merchant Saga will also be made NPC is applying artificial intelligence to determine the behavior and pathfinding. Behavior Trees algorithm is used to determine the behavior, while the A* algorithm is used for pathfinding.

Behavior Trees algorithm have been used in games like GTA, Warcraft III, Halo 2 and Halo 3. With Behavior Trees will be easier to create and design the behavior of the NPC. A* algorithm is often used to find the shortest path or pathfinding. A* algorithm is the optimal algorithm for pathfinding, but could be improved by simply exploring the particular nodes (Jump Points). With both of these algorithms are able to determine the NPC behavior and can find the shortest path to move from one node to another node.