

ABSTRACT

A Character on the game usually needs movement to get pass through every levels. And the game maker usually build the static movement for it where it's routes will always the same frequently, the minus of this static character are have no destination or aimless and can easily get stuck. The solution is using AI(Artificial Intelligence) for it's movement, where the AI in the character will move according the path that they found by itself(path finding). The pathfinding game that be made using those AI(Artificial Intelligence) implementing A* algorithm. This algorithm were used to determining/finding the shortest path from the starting point to the destination point, to know the performance of searching time, how much steps needed from the beginning to destination point and how many nodes were examined on the pathfinding game. The application of A* algorithm on the pathfinding game is based on the A* procedure to get the best move from the starting potition. A* algorithm is a refinement from the best-first-search(BFS) method using heuristic functions. There are two well known heuristic there were Euclidean and Manhattan Heuristic, where in each heuristic have advantages and disadvantages.

By implementing A* algorithm in Non-Playable Character in Hungry Pigs game the authors have tried to do some research and adaptation to the heuristic function and the result is quite surprising. Far in the future, I hope there will be someone else do the further research, and in the end will produce the better result.

Keywords : Pathfinding, Heuristic, A* Algorithm, Artificial Intelligence.