ABSTRACT

APPLICATION OF A* (A STAR) ALGORITHM IN THE SHORTEST PATH SEARCH ON PATHFINDING GAME

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Pathfinding game is a game to find the shortest path from the starting point towards the destination point on a map. Pathfinding game made with AI (Artificial Intelligence) implement a specific A (A Star) algorithm. This algorithm is used to determine the choice of the shortest path to destination point. To determine the performance in terms of search time, the total of steps from a starting point toward the destination point and the node that is checked in pathfinding game.*

Implementation of A algorithm in pathfinding game are based on the A* procedure to obtain the best move from the position of starting point. A * Algorithm is a improvement of the best-first search (BFS) method using the heuristic function. Heuristic function is also called f (n) which is the determination of the sequence point to be visited first. Heuristic function is actually symbolize how well or maybe point visited to reach the destination point. A * will minimize the total cost of the track and will provide the best solutions in optimal time. This application was created using Borland Delphi 7.0.*

*The results of testing this application, other than get on a path to destination map and the tracking branches, algorithm A * search provides of search results path which is the optimal shortest path. Alpha test resulting by A* search in a total steps of smaller, but node of checked is bigger so take a long time. Performance level resulting A * depends on the position of starting point, destination point, the barrier and heuristic value.*

Keywords : pathfinding, A, heuristic*