MOVEMENT MODELLING OF BEHAVIORED INTELLIGENT AGENT USING ANT SYSTEM ALGORITHM

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ABSTRACT

Modern game AI still dependent on the approach to human behavior and the condition of the real world. Realistic Games that are supported by implementation on player/NPC (Non Player Character) behavior. To animate behavior of intelligent agents need to apply artificial intelligence. Intelligent agent movement in a game is very closely related with the path finding. Path finding is one of the basic algorithm characters movement in game. The problem is how to provide intelligent behavior of agents in order to find shortest distance of the goal.

One of movement modelling method behaviored agent in mall is using ant system algorithm, this algorithm adopt ant life, when ant work together to find food using pheromones. Ant system algorithm can be modeled the movement of agents who are interested in performing at the mall atrium before heading to the actual destination by providing higher pheromone value on the corridor surrounding attractions. To model the agent who avoid certain corridor given the pheromone values close to zero.

After simulation and research conducted, the movement of the agent behavior in a mall by using the ant system obtained a 60% ant who are interested in performing at the mall atrium before heading to the goal. As for the agents movement who are interested in performing at the mall atrium before heading to the goal and avoiding corridor 33 has 40% result. For modeling the movement of agents without giving pheromone attraction and pheromone avoidance for all corridor 10% result of ants who are interested in performing at the mall atrium before heading to the goal and avoiding corridor 33.

Keywords : behavior, agent, node, pheromone, path, corridor