Collision avoidance in crowd simulation with priority rules

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Abstract

Motion planning for multiple entities or a crowd is a challenging problem in today's virtual environments. We describe in this paper a system designed to simulate pedestrian behaviour in crowds in real time, concentrating particularity on collision avoidance. On-line planning is also referred as the navigation problem. Additional difficulties in approaching navigation problem are that some environments are dynamic. In our model we adopted a popular methodology in computer games, namely A* algorithm. The idea behind A* is to look for the shortest possible routes to the destination not through exploring exhaustively all the possible combination but utilizing all the possible directions at any given point. The environment is formed in regions and the algorithm is used to find a path only in visual region. In order to deal with collision avoidance, priority rules are given to some entities as well as some social behaviour.

Link

http://www.researchgate.net/publication/228661088_Collision_avoidance_in_crowd_simulation_with_priority_rules