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Abstract

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Strategic Team AI Path Plans: Probabilistic Pathfinding

Tng C. H. John,[1] Edmond C. Prakash,[2] and Narendra S. Chaudhari[1]

[1]School of Computer Engineering, Nanyang Technological University, 639798, Singapore
[2]Department of Computing and Mathematics, Manchester Metropolitan University, Manchester M1 5GD, UK

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Abstract

This paper proposes a novel method to generate strategic team AI pathfinding plans for computer games and simulations using probabilistic pathfinding. This method is inspired by genetic algorithms (Russell and Norvig, 2002), in that, a fitness function is used to test the quality of the path plans. The method generates high-quality path plans by eliminating the low-quality ones. The path plans are generated by probabilistic pathfinding, and the elimination is done by a fitness test of the path plans. This path plan generation method has the ability to generate variation or different high-quality paths, which is desired for games to increase replay values. This work is an extension of our earlier work on team AI: probabilistic pathfinding (John et al., 2006). We explore ways to combine probabilistic pathfinding and genetic algorithm to create a new method to generate strategic team AI pathfinding plans.