

INTISARI

Pemodelan Kerumunan Pertarungan

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Penelitian ini dilakukan untuk memecahkan masalah dalam interaksi antar karakter dalam kerumunan pertarungan. Masalah utamanya adalah pada penelitian-penelitian sebelumnya kerumunan pertarungan dibangun dari pertarungan satu lawan satu, yang belum menunjukkan kerumunan pertarungan yang sebenarnya, karena satu karakter hanya berhadapan dengan satu karakter dalam satu kejadian pertarungan. Oleh karena itu perlu dibuat model kerumunan pertarungan yang dikembangkan dari pertarungan satu lawan banyak.

Penelitian ini ditujukan untuk mengembangkan model baru kerumunan pertarungan yang dibangun dari pertarungan satu lawan banyak, dimana setiap karakter dapat menghadapi keroyokan banyak lawan dalam satu kejadian pertarungan. Model ini menggunakan sistem hirarki struktur dan hirarki perilaku.

Setiap karakter dalam model dapat menghadapi satu lawan atau menghadapi keroyokan banyak lawan. Setiap karakter dalam kerumunan pertarungan dapat memilih sendiri lawannya dari sekian banyak musuh yang ada. Bahkan setiap karakter dapat melawan banyak karakter dalam satu waktu. Setiap karakter dapat berpindah dari satu lawan ke lawan yang lainnya, tanpa harus menunggu lawannya kalah terlebih dahulu. Setiap karakter dalam model ini dapat berpindah dari satu *cluster* pertarungan ke *cluster* pertarungan yang lain.

Model dan algoritme baru yang dihasilkan dapat dimanfaatkan sebagai salah satu fitur dalam pengembangan game dan animasi.

Kata kunci: simulasi, animasi, game, keroyokan

ABSTRACT

FIGHTING CROWD MODELLING

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This research is conducted to solve the problem of interaction between characters in the fighting crowd. The main problem is the previous researches use methods that combine one-on-one fight to form fighting crowd. This can cause each character only considers one opponent during interaction at a time. A character will encounter another character only if the previous opponent is defeated. The simulation can only handle up to two characters in a fight cluster. Besides, it can create a waiting condition on characters who do not get a fighting pair.

The primary objective of this research is to establish a new fighting crowd model which is built by one-on-many fight, so that each character can fight many opponents at a time.

This research, has produced a new model of the fighting crowd which is built by one-on-many fight. Each character can seek out enemies/opponents, select one target opponent, avoid obstacles, approach the target opponent, change the target opponent, and then defeat the opponent or be defeated by the opponent; in other words, each character can thus fight against many opponents. Each character does not only focus on the opponent being targeted, but also on the other opponents surrounding him. Each character can move from one opponent to another, even when the target opponent is not yet defeated. Each character can move to another fight cluster, thus ensuring that fights seem more dynamic.

The fighting crowd model can be utilized as a feature in game and animation development.

Keywords: simulation, animation, game, multi-characters