Introduction to Crowd Simulation

Julien Pettre

Crowd simulation is today a frequently used computer animation technique in the field of video-games or the one of visual effects for movies. It is used to populate game scenes and make them lively and interactive, or to generate background characters in movies. The topic received a lot of attention in the research community. Many simulation algorithms were proposed to simulate crowds. How do they work? How are they concretely used in the field? This tutorial is clearly intended for beginners and all who are curious about the topic, and will present the basics of crowd simulation. It will also address some related questions such as the one of animation and rendering of crowd characters.