

# Feeling Crowded Yet?: Crowd Simulations for VR

Pelechano, Nuria; Jan Allbeck



With advances in virtual reality technology and its multiple applications, the need for believable, immersive virtual environments is increasing. Even though current computer graphics methods allow us to develop highly realistic virtual worlds, the main element failing to enhance presence is autonomous groups of human inhabitants. A great number of crowd simulation techniques have emerged in the last decade, but critical details in the crowds' movements and appearance do not meet the standards necessary to convince VR participants that they are present in a real crowd. In this paper, we review recent

advances in the creation of immersive virtual crowds and discuss areas that require further work to turn these simulations into more fully immersive and believable experiences.