

Simulating heterogeneous crowds with interactive behaviors

Kappadia, Mubbasir; Pelechano, Nuria; Guy, Stephen; Allbeck, Jan; Chrysanthou, Yiorgos



Over the last decade there has been a large amount of work towards trying to simulate crowds for different applications, such as movies, video games, training, and evacuations. This course focuses on heterogeneous crowd simulation for interactive applications and will describe state of the art methods to simulate large groups of agents exhibiting a variety of behaviors, appearances and animations. We will present different techniques including psychological models and data-driven approaches that attempt to imitate real humans. We also present different systems to speed up both navigation, through multi-domain

planners, and rendering, using per-joint impostors on fully animated 3D characters. Finally we provide quantitative and qualitative techniques to evaluate the quality of the simulated crowds, and include an overview of future research directions in the field.