Continuous Pedestrian Simulation

Most approaches to pedestrian simulation are discrete and based on cellular automata. This has the advantage of being efficiently computable. The disadvantage of cellular approaches, however, is their being quite unnatural, as, for example, in reality a crowded space is not partitioned into cells. Additionally, such cellular partitioning of space produces preferred walking directions which do not exist in reality.

The goal of this project is to set up a continuous crowd simulator with a more realistic model—possibly at higher computational expenses—and then compare it with discrete approaches that already exist at the chair. If the continuous model turns out to be more realistic but more expensive, concepts for speeding up the computation should also be developed.

The programming language may be Java or C++. Other languages are possible after consulting the supervisor. Visual Basic, however, is deprecated.

Supervisor

Norbert Paul, Computation in Engineering, email: paul(at)bv.tum.de