Project: Pedestrian motion modeling

Pedestrians are "active particles" moving in two dimensions. They move (sometimes a little irregularly) toward certain direction/goal, and try to avoid collisions. One often models this motion as a discrete cellular automaton with "social forces". The basic task is to understand motions in the case of large density, to control "panic" events and to optimize walk paths.

Model following situations:

1. exit from a closed room
2. oppositely moving pedestrians in a corridor
3. oppositely moving pedestrians through a door
4. effect of an obstacle on exit from a closed room
5. any other interesting situation you can imagine