

Software Lab:

Modeling: ★★☆☆☆
Mathematics: ★★☆☆☆
Programming: ★★★★★

Dynamic visualization of pedestrian simulation data

Setting

Simulation of pedestrian flows can help to avoid crowd disasters like the one at the 2010 Love Parade on the one hand and to optimize event layouts on the other hand. The visualization aspect of pedestrian simulation data plays an important role to demonstrate simulation results to potential clients. Showing 2D results is great, showing animated 3D results is fantastic. Game Engines are powerful tools to 3D-visualize data generated by pedestrian simulators



In this software lab you will build your own 3D visualization software based on an advanced game engine like the Unity or Unreal game engine. Furthermore you will implement analysis tools to be able to examine the simulation data.

Task

- Create a 3D pedestrian simulation visualizer based on a modern state-of-the-art game engine.
- Develop analysis tools to go beyond visualization.
- Use our simulation data to test your developed software.

Supervisors

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References

- [1] Robert Berggren. Simulating crowd behaviour in computer games. PhD thesis, BSc dissertation. Lulea University of Technology, 2005
- [2] Wei Shao. Animating autonomous pedestrians. PhD thesis, New York University, 2006