

Winter Semester 2023/24

## Assignment on Virtual Reality and Physically-Based-Simulation - Sheet 5

Due Date January 29, 2024

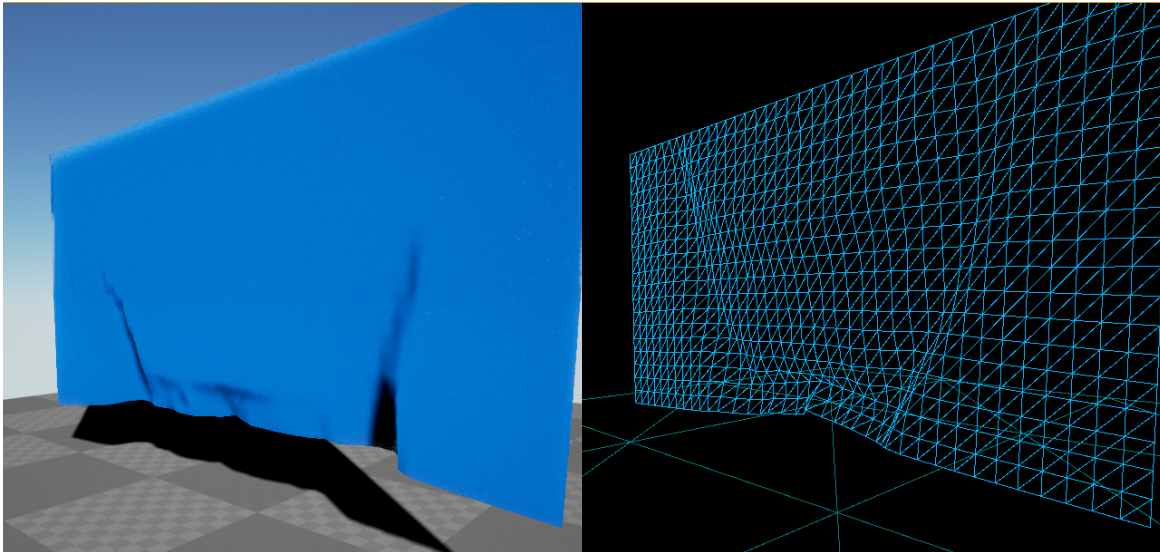


Figure 1: Final mass-spring system. Left: Rendering in lit mode. Right: Rendering in wire-frame mode.

### Exercise 1 (Mass-Spring-Systems, 8 Credits)

The goal of this exercise is to implement a mass-spring system. On our website you can find an Unreal project with most parts already implemented.<sup>1</sup> When you recall the definition of a mass-spring system from the lecture slides, you will recognize the two main components in the `Spring.{h,cpp}` and `MassPoint.{h,cpp}` files. The `SpringMassActor.cpp` glues the system together. It initializes the mass points and springs, calls the update methods, and further creates a mesh to visualize our system (`ASpringMassActor::initSpringSystem`).

<sup>1</sup> [http://cgvr.cs.uni-bremen.de/teaching/vr/uebungen/spring\\_mass.zip](http://cgvr.cs.uni-bremen.de/teaching/vr/uebungen/spring_mass.zip)

