CompVP Project Part 1

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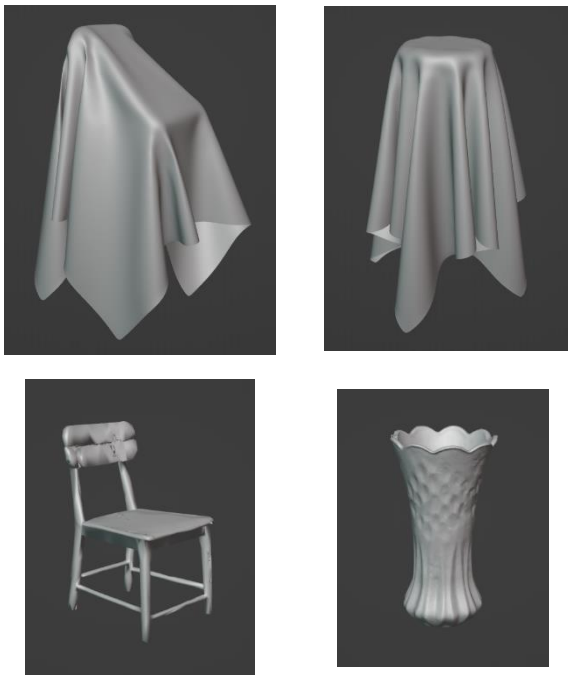
The 100 objects were selected from the OmniObject3D [1] dataset, which contains a huge amount of scanned 3D objects.

To normalize the objects to the unit scale and reduce their mesh size, two filter functions from the library PyMeshLab [2] were used.

Blender 3.6 [3] was chosen for the simulations of the cloth draping.

While trying different settings for the cloth draping, the most sufficiently realistic results were accomplished by using the collision object and cloth settings, that are written in the two tables on the right.

For especially pointed objects a slight problem occurred with those settings. The pointed top-most part would “stab” through the cloth and thereby would no longer be occluded. To fix this problem a slightly increased “Thickness Outer” was used for such objects. The highest used value for this parameter was 0.015.



[1] https://omniobject3d.github.io/
[2] Alessandro Muntoni, Paolo Cignoni. “PyMeshLab”, doi: 10.5281/zenodo.4438750
[3] https://www.blender.org/

Blender 3.6 Collision Objects:	
Collision:	
Field Absorption:	0.00
Particle:	
Permeability:	0.000
Stickiness:	0.000
Kill Particles:	DISABLED
Damping:	0.000
Randomize:	0.000
Friction:	0.000
Randomize:	0.000
Softbody & Cloth:	
Damping:	0.100
Thickness Outer:	0.007
Inner:	0.005
Friction:	5.000
Single Sided:	DISABLED
Override Normals:	DISABLED

Blender 3.6 Cloth Objects:	
Cloth:	
Quality Steps:	5
Speed Multiplier:	0.290
Physical Properties:	
Vertex Mass:	0.05 kg
Air Viscosity:	1.000
Bending Model:	Angular
Stiffness:	
Tension:	0.700
Compression:	2.000
Shear:	2.000
Bending:	0.200
Damping:	
Tension:	0.000
Compression:	0.000
Shear:	0.000
Bending:	0.000
Internal springs:	DISABLED
Pressure:	DISABLED
Collisions:	
Quality:	2
Object Collisions:	ENABLED
Distance:	0.005 m
Impulse Clamping:	3.000
Vertex Group:	-none-
Collision Collection:	-none-
Self Collisions:	ENABLED
Friction:	5.000
Distance:	0.005 m
Impulse Clamping:	0.000
Vertex Group:	-none-