Yue Softbody Physics

"Yue Softbody Physics" is an asset to create interactable soft body objects.

For a video **tutorial and additional information** check out https://www.youtube.com/c/YueBeifong

Setup

To create a softbody in Unity with "Yue Softbody Physics" the following steps are required.

- Import a 3D Model as a "GameObject" with a "Meshfilter" and a "MeshRenderer".

  Note: Make sure that your Mesh is on the same object and not on multiple objects down the hierarchy. Also, it only works on a meshfilter with a meshrenderer. The "Skinned Mesh Renderer" is not supported. Your 3D-Model should have less than 10k vertices.

- Delete the Collider, in case your Model comes with a Collider
- Add the "YueSoftbodyPhysics" script

Now your mesh should behave as a softbody, if you click play.

Tuning

All settings for "Yue Softbody Physics" explained:

Checkbox "Simplify" - This check box allows you to choose, if you want to create a physics-vertex for each vertex on your mesh. If you check "Simplify", a float variable **(Radius)** will appear that defines a radius in which vertices will be grouped together, to reduce the required computing power.

Velocity Factor - "Proportional Velocity Factor" determines the strength by which the physics-vertex will track to its target position. "Derivative Velocity Factor" is a damper factor. Recommended Range for the proportional-term is 20 – 400. The derivative-term should be about 10% of the proportional-term.

Checkbox "Auto Retraction Force" - If you uncheck this box, you can choose a factor by which each physics vertex retracts the main object. Recommended is a value of about 0.0001. Auto refers to 1 / PhysicsVertexCount. This usually produces the best results.

Checkbox "Use MeshCollider" - When it is checked a MeshCollider will be added and be active during runtime. This results in the body appearing to be more rigid.

Softbody Layer – This layer will be unchecked for intercollision, it initially set to 30, so it does not interfere with the rest of your project.

Physics Vertex Radius – This value defines the radius of the sphere collider of the physics-vertex.

Physics Material – This physics material will be use on the meshcollider and the physics-vertices.