TubeRenderer Reference

Version 1.9.4

MonoBehaviours

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SplineMaker

Generates a set of points along a (Catmull-Rom) spline curve based on a set of anchor points. The computed points can be routed to TubeRenderer or another reciever.

int pointsPerSegment
Gets or sets the resolution per segment.

bool loop
Gets or sets a value indicating whether this spline is looped.

Vector3[] anchorPoints
Gets or sets the anchor points of the spline.

Vector3[] points
Direct reference to the array of computed spline points.

Vector3ArrayEvent onUpdated
Event that will fire when points have been updated.

TubeRenderer

Generates a tube mesh based on a set of points and a bunch of settings described below.

Vector3[] points
Center points for the tube. Forward rotations will be calculated from the point at index 0 and upwards. The array is NOT copied; the tube will keep the reference to the array.

float[] radiuses
Radius values for the tube. Each value corresponds to the point at the same array index. Array length must fit the number of points. If 'radius' has been set then 'radiuses' will be ignored. The array is NOT copied; the tube will keep the reference to the array.

float radius
Radius for the entire tube. If 'radiusses' has been set then 'radius' will be ignored. Default is 0.1.

Color32[] colors
Vertex colors for the tube. Each value corresponds to the point at the same array index. Array length must fit the number of points. The array is NOT copied; the tube will keep the reference to the array.

float[] twists
Twist angles (degrees) for each point in the tube. Array length must fit the number of points. The array is NOT copied; the tube will keep the reference to the array.

int edgeCount
Edge resolution. Minimum is 3. Default is 12.

bool calculateTangents
Calculation of tangents. Default is false (to boost performance).

bool invertMesh
Mesh inversion (render the tube inside out). In most cases you should do 'Cull Front' in your shader instead. Default is false.

NormalMode normalMode
How normals are rendered. Default is NormalMode.Smooth.

CapMode caps
Closed end points. Default is true.

bool postprocessContinously
Postprocess continously (if AddPostprocess has been called). When true, postprocesses will be called every update. When false, they will only be called when tube properties are changed. Default is true.

Rect uvRect
UV mapping rect for wrapped tube body. Default is Rect(0,0,1,1).

Rect uvRectCap
UV mapping rect for tube caps (if caps is true). Default is Rect(0,0,1,1).

bool uvRectCapEndMirrored
Mirrored uv mapping for cap at end point (points[points.Length-1]). Default is false.

bool uvAntiStretching
Avoid stretching texture when segments have different lengths. Default is false.

float forwardAngleOffset
Rotation offset around the tubes forward direction.

float length
Gets the total length of the tube.

Mesh mesh
Get the tube mesh. Useful for combining multiple tubes into a static mesh. Do not manipulate directly.

bool showMeshGizmos

Draw gizmos that indicate mesh normals and tangents. Default is false.

float meshGizmoLength
Length of mesh gizmos. Default is 0.1.

bool showRotationGizmos
Draw gizmos indicating rotation of each point. Default is false.

float rotationGizmoLength
Length of rotation gizmos. Default is 0.1.

void ForceUpdate()
Force update to generate the tube mesh immediately.

void MarkDynamic()
Shortcut to Mesh.MarkDynamic(). Call this if the tube will be updated often so that Unity can optimise memory use.

void AddPostprocess(Postprocess postprocess)
Add a method to receive and manipulate mesh data before it is applied. Useful for creating distortion effects or complex variations.

void RemovePostprocess(Postprocess postprocess)
Remove a postprocess method that have previously been assigned using the 'AddPostprocess' method.

Quaternion GetRotationAtPoint(int index)
Gets the rotation at point. Ensure that the tube has been updated before calling this, for example by calling ForceUpdate beforehand.

float GetLengthAtPoint(int index)
Gets the distance from point at index to next point. Ensure that the tube has been updated before calling this, for example by calling ForceUpdate beforehand.