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Zone Generator

The 'Zone Generator' is responsible for generating zones. Zones are either discs or meshes that can have things grow off of them, much like the 'Tree Generator'.

Generation

The Generation properties are describe in full detail under 'Generation Properties'.

Forces

Allow Forces

When enabled, all forces that are checked will act on the generator. *(Boolean)*

Forces

Enabled (checkbox)
While all forces in the scene are listed in this group, only enabled forces affect this generator.

Click on the colored square to the right of the force name to edit its properties.

Random Seeds

Random Seeds

Various seed values are used to procedurally generate nodes. Each random number has been separated out into groups of like properties. *(Integer)*

 **Randomize button**
Seeds can be incremented with the spinner or chosen at random via the 'Randomize' button. All seeds can be randomized at once with 'Randomize all'.

Randomize All

Randomizes the value for all seeds used to compute this generator. *(Function)*

Placement

Radius

If using discs instead of meshes, the radius of the zone discs. *(Float)*

Max Distance

The maximum distance from the parent spine where nodes are eligible. *(Float)*

Min Distance

The minimum distance from the parent spine where nodes are eligible. *(Float)*

Angle

The angle between the parent spine and the vector used to offset each zone from the parent spine. *(Percentage)*

Exponent

The exponent applied to the computed placement distance. Greater values will pack zones near the parent and vice versa. *(Float)*

Orientation: Alignment

Attempts to align the top of each zone with the world “up” direction while respecting the existing up rotation. Used to eliminate upside-down nodes. *(Percentage)*

Orientation: Hang

Interpolates zone orientation between the local Z-axis (0.0) and the world Z-axis (1.0). *(Percentage)*

Orientation: Up Rotation

Rotates each zone around the local X-axis. *(Percentage)*

Orientation: Out Rotation

Rotates each zone around the local Z-axis. *(Percentage)*

Orientation: Right Rotation

Rotates each zone around the local Y-axis. *(Percentage)*

Meshes

Enable

Toggles the zone generator from disc mode to mesh mode. *(Boolean)*

Include In Model

When enabled, zone meshes will be included as part of the model. *(Boolean)*

Place At Origin

When enabled, these zones will be positioned and rotated to match the transforms of their assigned mesh assets, rather than using the placement properties of the zone itself. This is useful for world-building on “terrain” zone meshes where placement needs to be exact. *(Boolean)*

Use Actual Size

When enabled, forces meshes to appear their actual size in the tree window, rather than unitized to a size of one. *(Boolean)*

Size

When 'Use actual size' is disabled, the size of each mesh is determined by this set of values. *(Float)*

Level of Detail

This LOD curve controls which LOD state to use for the assigned mesh. The left end of the curve corresponds to the highest LOD, and the right end of the curve corresponds to the lowest LOD. The LOD states are assigned on the Mesh Assets tab. *(Index)*

Apply Wind

When enabled, global wind motion will be applied to this mesh. This is useful for zones that are part of a tree model, such as a topiary bush. *(Boolean)*

Meshes

Multiple zones can be defined and applied to nodes at random. Use the button controls to add [+] or remove [-] meshes. *(Multiproperty)*

- **Geometry**: A named mesh from the mesh bank will be used for this zone.
- **Material**: A named material from the material bank to be applied to this mesh.
- **Weight**: Probability that any node will receive this type (this weight ÷ sum of all weights).

Growth: Area Influence

When enabled, nodes growing off of this generator will be placed when an even distribution over triangles of all sizes. When disabled, smaller triangles may be more densely populated than larger triangles. *(Boolean)*

Growth: Adapt To Masks

When enabled, nodes growing off of this generator will reposition their nodes to best fill in the masked area. When disabled, offending nodes are simply culled and no other nodes will move. *(Boolean)*

Growth: Iteration Scale

When 'adapt to masks' is enabled, this is the number of placement iterations attempted. *(Percentage)*

Growth: Surface Adhesion

For objects growing from this zone, this is an interpolation of the orientation of those objects between the “up” direction of this generator (0) and the normal of the zone surface (1). *(Percentage)*

Growth: Influence of Forces

The amount that forces influence which faces children can grow off of. A value of '1' would strictly enforce the directions and positions of forces enabled on this generator. *(Float)*

Growth: Constant Sink

The amount to “sink” each child under the surface of the zone mesh. This is useful if the roots of your trees are showing on top of the terrain. *(Float)*

Growth: Slope Based Sink

The amount to further sink children (added to the constant sink value) as the slope of the zone mesh surface increases. *(Float)*

Ambient Occlusion

Offset

An offset for the calculated amount of ambient occlusion. Increasing this value lessens the affect of ambient occlusion. *(Percentage)*

Contrast

The difference in brightness from the heaviest possible ambient occlusion to no ambient occlusion. *(Percentage)*

Min

This value clamps the darkness of ambient occlusion allowed. *(Percentage)*

Max

This value clamps the most that ambient occlusion can ever darken. *(Percentage)*

Lightmap

Scale

Scales all of the geometry in this object's relevance in the automatically computed lightmap uv set. Keep in mind that the scale value is considered along with the geometry area and texture area of the object. In addition, every object's lightmap scale is compared to every other object and then the lightmap packing is determined. This means that your scale value may not be honored exactly or may get so large as to exhibit unexpected results. Use 'Tools→Reset lightmap scalars' to go back to default values for the whole model. *(Float)*
