

FRAGMENTUM

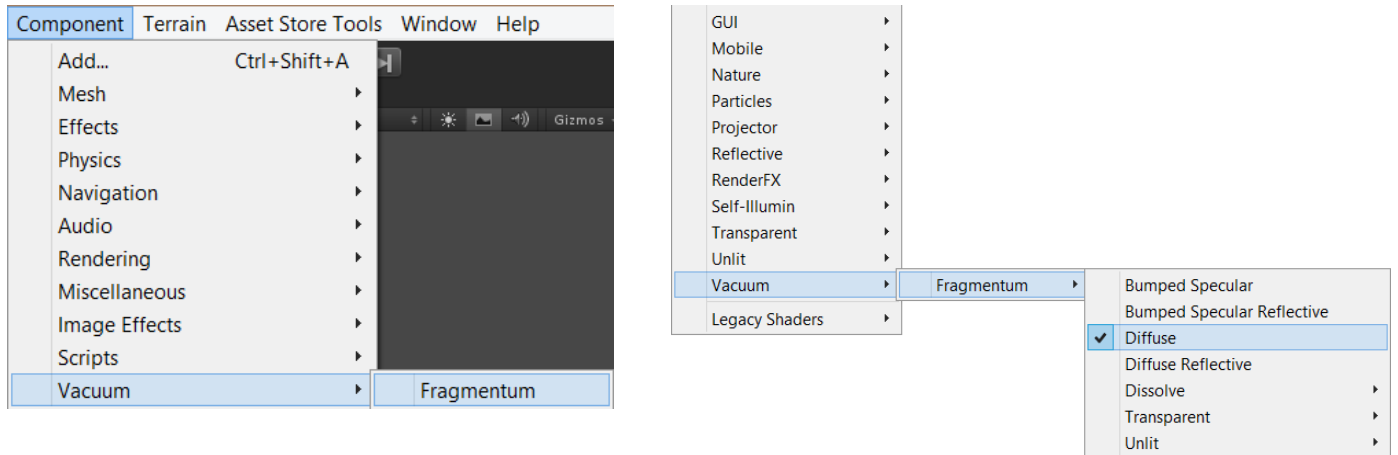
Shader pack for Unity 4

By Davit Naskidashvili

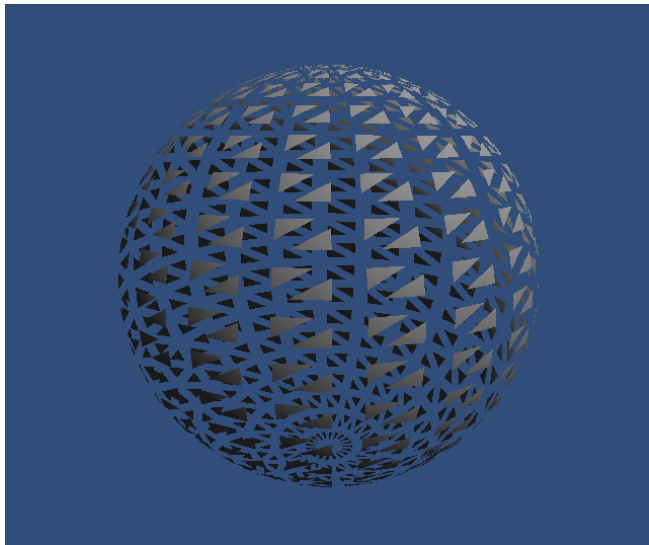
2013

Quick Start

To view Fragmentum in action, assign Fragmentum script and Fragmentum shader to the object.

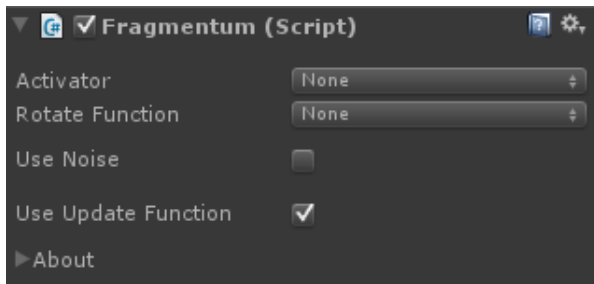


And hit play.



Note: Fragmentum script and Fragmentum shader should be used together, otherwise there will not be effect.

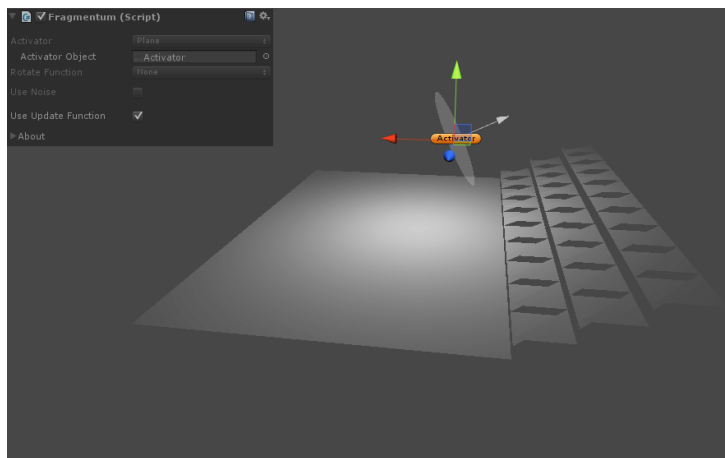
Fragmentum script overview



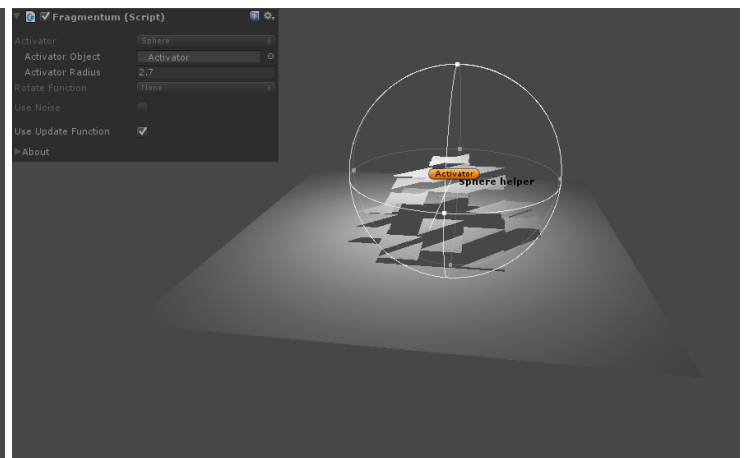
Fragmentum script is required to supply shader with necessary data and controls it complexity.

Activator

- None – Fragmentum requires no activator
- Plane – Objects fragments are “awakening” with plane object. Plane’s position and normal’s direction determines how fragments are effected by shader.
- Sphere – Object’s fragments are “awakening” with sphere type activator. If sphere radius is more then 0, then fragments inside sphere are affected. If radius is less than zero – fragments outside of sphere are affected.



(Plane activator)



(Sphere activator)

Note: Sphere activators radius should not be equal to zero.

Rotate function

- None – No rotation is applied to the fragments
- AroundFragmentCenter – Object fragments rotate around their center points
- AroundObjectCenter – Object fragments rotate around their parent objects pivot point

Note: Rotation function is not available for SkinnedMesh Renderers.

Use noise – Makes available to control fragments random position and random rotation inside material editor

Use Update Function – Use built-in update function to update

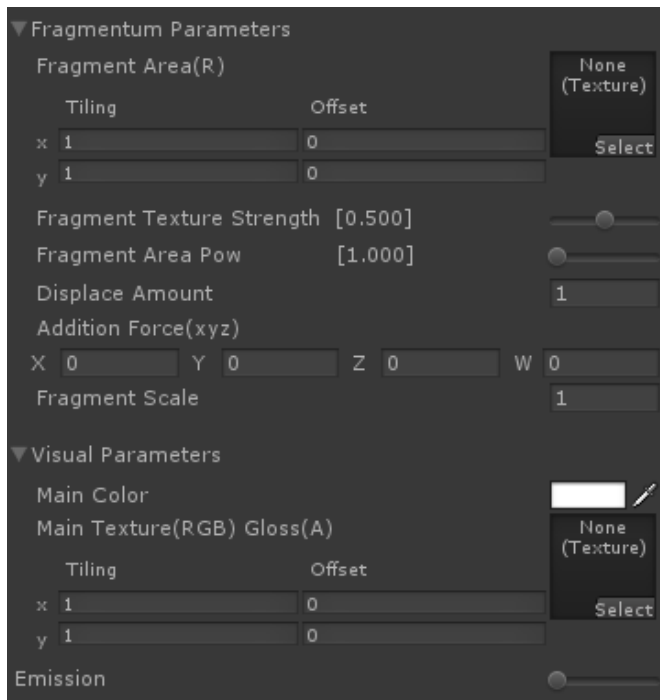
- Plane activator position and rotation
- Sphere activator position and radius

And send these data to the shader. If there is additional script component on the object which updates Fragmentum shader parameters, this parameter should be unchecked.

Note: You cannot change Fragmentum script parameters while in game mode.

Fragmentum shader overview

Fragmentum shader parameters are divided into two parts:



- Fragmentum parametr – controls fragments behavior
- Visual parameters – common unity material parameters with: Color, Diffuse, Bump, Specular, etc.

Fragmentum Texture – Texture (red channel) which controls area, where fragments are active. If activators are used, only fragments within this are affected.

Fragment Texture Strength – Controls Fragmentum texture strength [0, 1]

Fragment Texture Pow – Math power of the texture [1, 10]

Displace Amount – Fragments displace amount

Additional Force – Adds additional directional force to the fragments

Fragment Scale – Fragments scale which are affected. (Does not work with SkinnedMesh Renderers)

(If activators are used)

Lock Displace – Locks displace, thus activators strength (distance or radius) max value never surpasses – **Displace Amount**

Distance To Activator – Distance to activator from the fragment

(If rotate functions are used)

Rotate speed – Fragments rotation speed.

(If noise is used)

Displace Direction Noise – Adds random noise to fragments position

Displace Rotation Noise – Adds random rotation to the fragments, even if there is no Rotation function used.