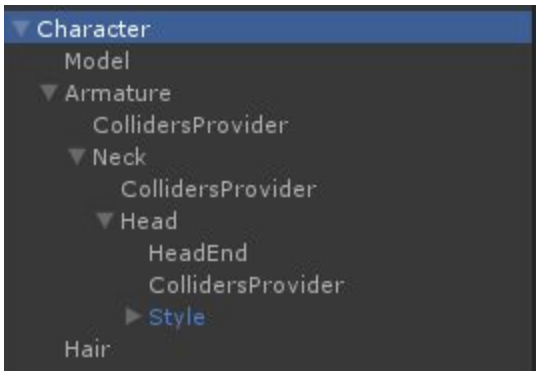
Character GameObject.

To add the hair to your character you need to configure 3 structures. Its Colliders provider, Geometry providers and Hair Settings.

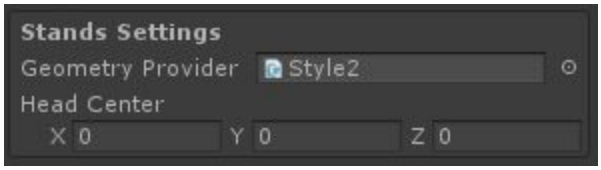
- Colliders Provider: Is a game object which contain one or more Sphere colliders. This objects should be children of bones to be able more with an animation. See “Colliders Providers” chapter for details.
- Geometry Provider: Is a game object with contain a hair and a scalp geometry exported from Blender. See “Geometry Provider” chapter for details.
- Hair Settings: Is a container for Hair Settings script. See “Hair Settings” chapter for details



Hair Settings

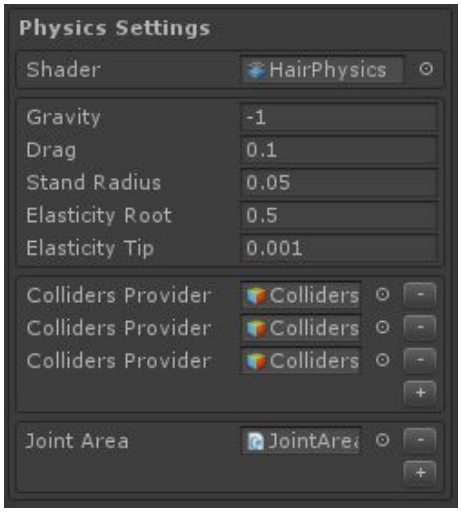
Stands settings.

- Geometry provider: Is a container for imported hair geometry. See “Hair Geometry” chapter for details.
- Head Center. Is marked as green dot in scene window. Should be located in the center of characters head. It is important for shading.
- Bounds: Is a size of all hair area. Unity use it to clip parts of hair which are not seen by camera.



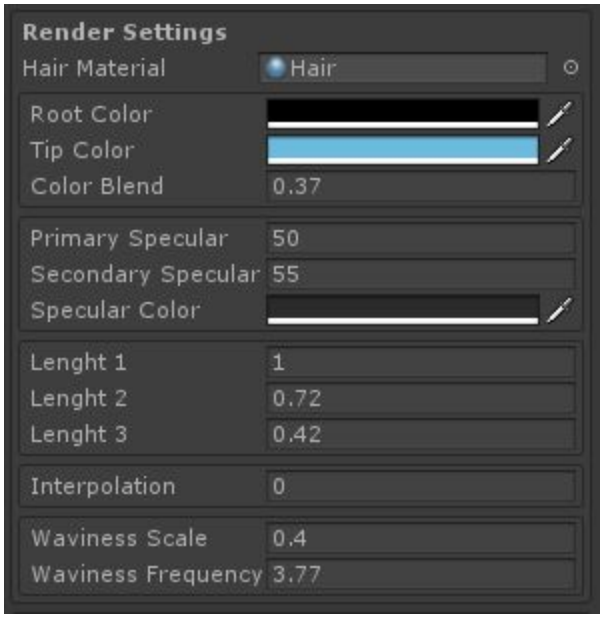
Physics settings.

- Shader: Is a compute shader. You can find it by path: Hair/Shaders/Compute.
- Gravity multiplier: Is a gravity Y axis value. Set “-1” for long hair. “0” for short/fur hair.
- Drag: Increase it if your hair works unstable. For short hair and fur is better to set drag bigger.
- Stand radius: Stand consist of several joined spheres. Stand radius is a radius of this spheres.
- Elasticity Root. Is elasticity of stands from root to middle.
- Elasticity Tip. Is elasticity of stands from middle to tip.
- Colliders provider: Is a game object with contain colliders for interaction with hair. Hair tools supports only sphere colliders. You can add several providers for different bones. See “Colliders Providers” chapter for details.
- Joint Area: See “Joint Area” chapter for details.



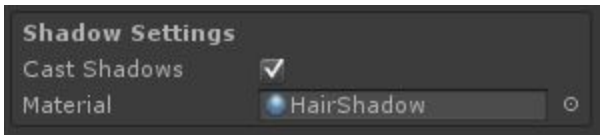
Render settings.

- Hair Material: This material will be using for rendering. You can find by path: “Hair/Library/Materials/Hair”.
- Root Color: Root color of hair stands.
- Tip Color: Tip color of hair stands.
- Color Blend: Declare how Root and Tip colors will blend. “0” is middle.
- Primary/Secondary Specular: As a semitransparent object hair has 2 specular components. Set it 0 - 10 for a blond hair and 25 -75 for a dark hair. 500 - 1000 for a wet hair.
- Specular Color: Is a color of specular components.
- Length 1/Length 2/Length 3: From each of scalp mesh polygons vertices (total 3) we grow physics stands. All other stands is just interpolation. Length 1/Length 2/Length 3 is length of physics stands for each polygon. It is usefull to make hair styles more casual.
- Interpolation : Meens how hair tips will behave between guide hairs. “1”mean interpolation “0” go to the polygon center. Hair root (born points) is always interpolated.
- Waviness Scale: Wave amplitude for curved hair styles.
- Waviness Frequency: Frequency of waves.



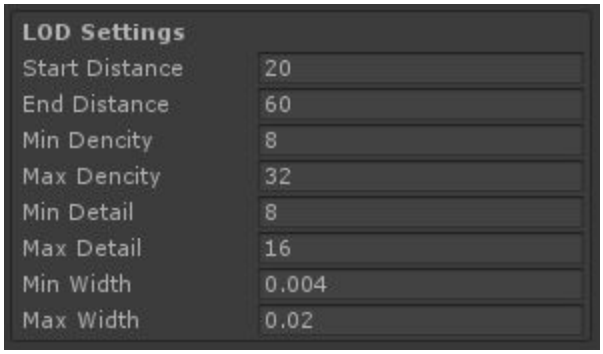
Shadow settings

- Enabled: Enable/Disable shadow casting.
- Material: Shadow material you can find by path: “Hair/Library/Materials/HairShadow”.



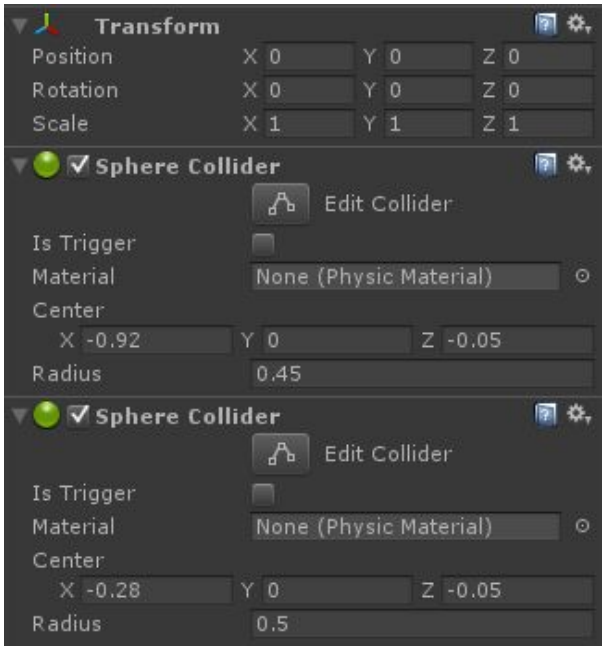
LOD Settings

- Start Distance: Distance from camera. When character will be far then this distance (Dencity/Detail/Width) will be set as Max.
- End Distance: Distance from camera. (Dencity/Detail/Width) will be set as Min.
- Dencity: Declare how many segments hair stand consist of.
- Detail: Declare how many hairs will grow by one scalp polygon.
- Width: Is hair stand width.



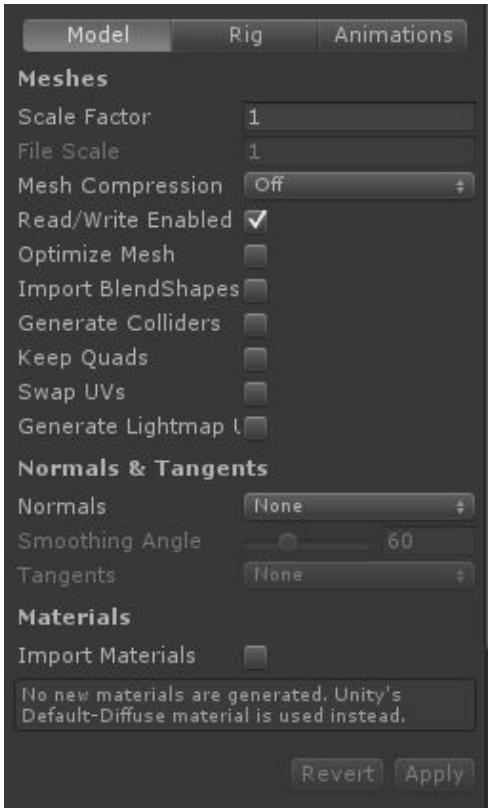
Colliders Providers

Colliders provider a game object wich contain one or more sphere colliders. This objects should be a child of bones to more with animation. Usually needed less then 3 - 4 providers (Head, Neck, L Shoulder, R Shoulder).



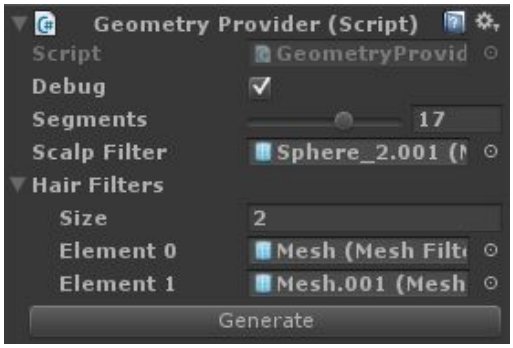
Import Settings

Make sure you hair geometry import settings are the same as below.



Geometry Provider

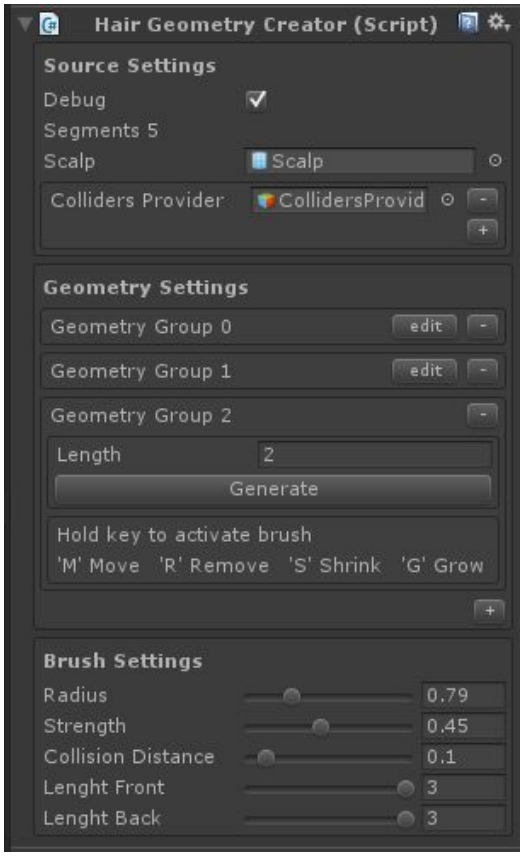
Geometry provider is a script responsible for processing hair geometry exported from blender or 3ds max.

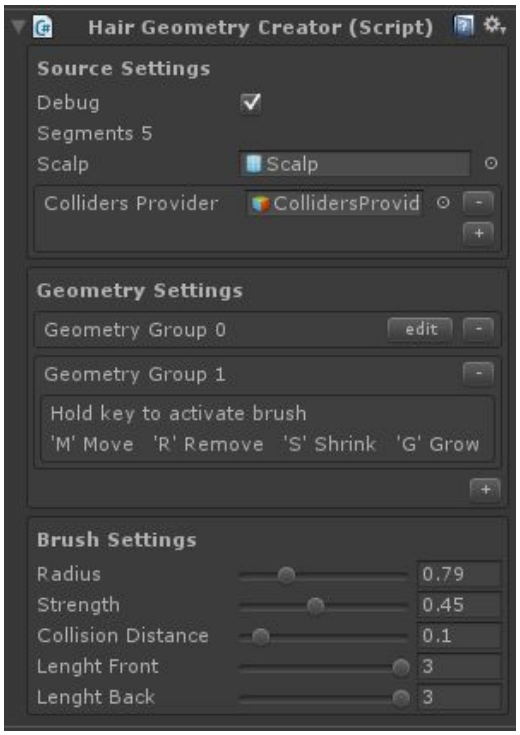


- Debug: Set it true to see debug draw of hair stands. It is very bad for performance.
- Segments: Declare how many particles hair stand consist of. **It is very important to set up correct value. In debug draw each hair stand should looks like individual curve.**
- Scalp Filter: You need scalp mesh to interpolate born points correctly. Don't change transform of Scalp Filter or Hair Filter. Its transform should be the same as it was when you import it to unity.
- Hair Filters: Hair Mesh Filter contain hair geometry. Some hair styles needs more than one hair mesh because of interpolation issue. It's common problem of hair generation. If two guide stands will grow at opposite and head between them, hair will grow inside of the head.
- Generate: Press to process geometry and see it as debug draw.

Geometry Creator

Geometry creator is a script responsible for generation and editing hair geometry.





Source Settings.

- Debug: Set it true to see debug draw of hair stands. It is bad for performance.
- Segments: Declare how many particles hair stand consist of. You can change this value only before start creating style.
- Scalp Filter: You need scalp mesh to interpolate born points correctly.
- Colliders provider: Is a game object with contain colliders for interaction with hair. Hair tools supports only sphere colliders. You can add several providers for different bones. See “Colliders Providers” chapter for details.
- Generate: Press to process geometry and see it as debug draw.
- Edit: Press to edit geometry group.

Geometry Settings

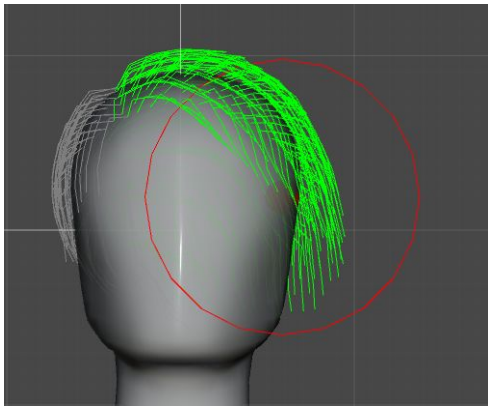
- You need separate some hair styles into groups.
- Lenght start stands lenght
- Generate: Generate hairs along normals.
- Hold key to acivate brush. (See “Brush Settings”)

Brush Settings

- Radius: Radius of a brush
- Strength: Brush pover
- Collistion distance: Distance from hair stands to collider

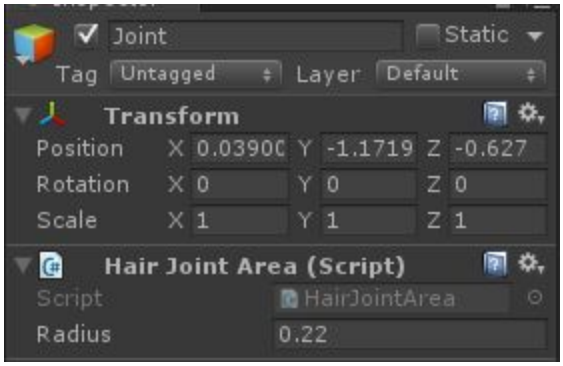
- Length Front|Back: Brush has cylinder shape. Length Front is cylinder length from head center to camera.

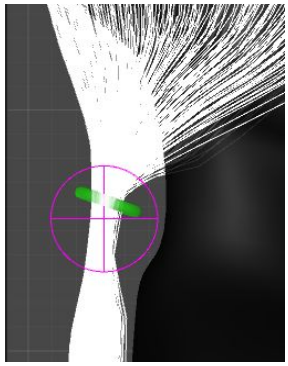
Brush user guide

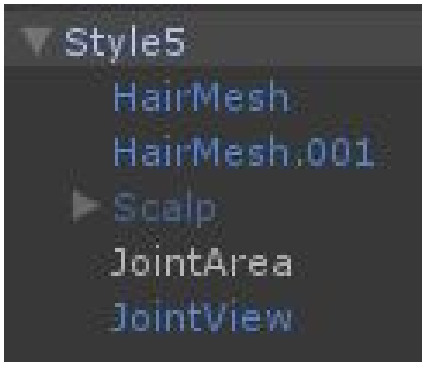


- To use brush select scene window
- Set view mode “iso”
- **Don’t press any mouse button**
- Press key “M” to move points
- “R” to remove hair stands
- “S” to decrease stands length
- “G” to increase stands length

Joint Area







- Radius: is radius of area joint. Will hold the hair stands.
- Joint Area and Joint View should be child of geometry provider script.