

# Building Asibikaashi's Hair Shader

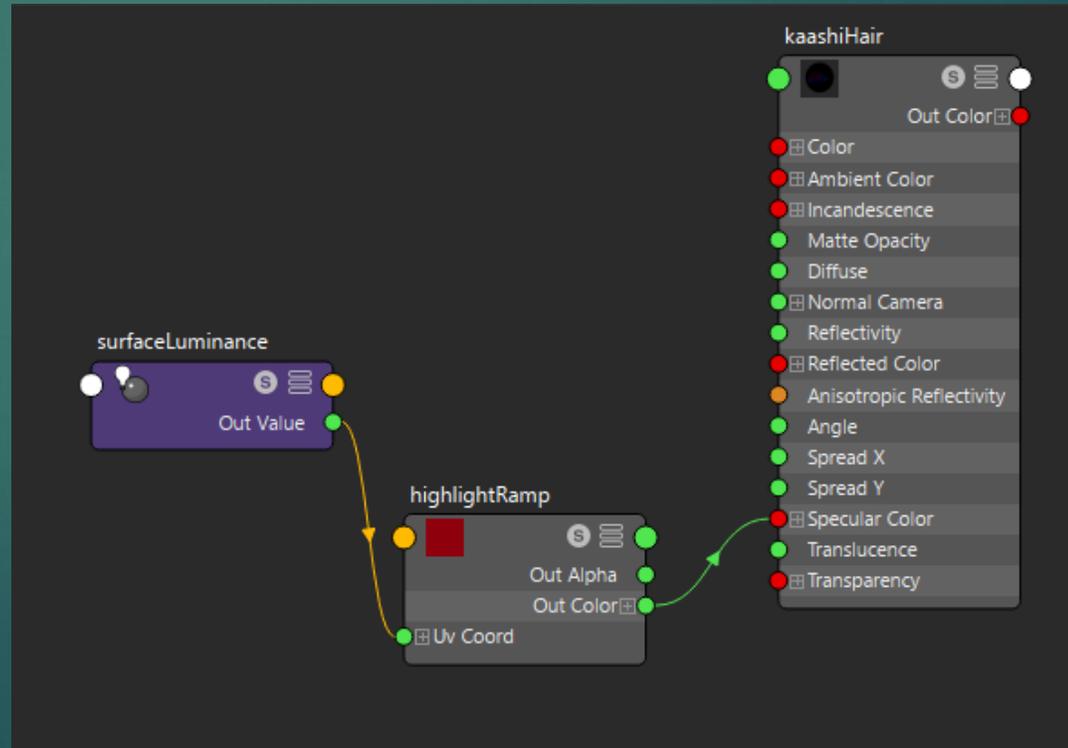


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- ▶ Asibikaashi's hair needed to be iridescent, and reflect the colors of the northern lights.
  - ▶ Iridescent materials shine different shades of color when they interact with light at different angles and intensities. Butterfly wings and hummingbird feathers were used as examples while making the shader.
  - ▶ So the hair shader would need to have these qualities: The ability to reflect color when interacting with light, and for the colors/pattern to change depending on the angle and intensity of the light.

- Asibikaashi's Iridescent hair is an anisotropic material. It uses the colors picked from the northern lights for the color of its specular highlight through a ramp, so it uses those colors when light shines on the material.
- To create this effect in Maya, I used a ramp shader node and a surface luminance node.

- The nodes are organized like this in the Hypershade window:

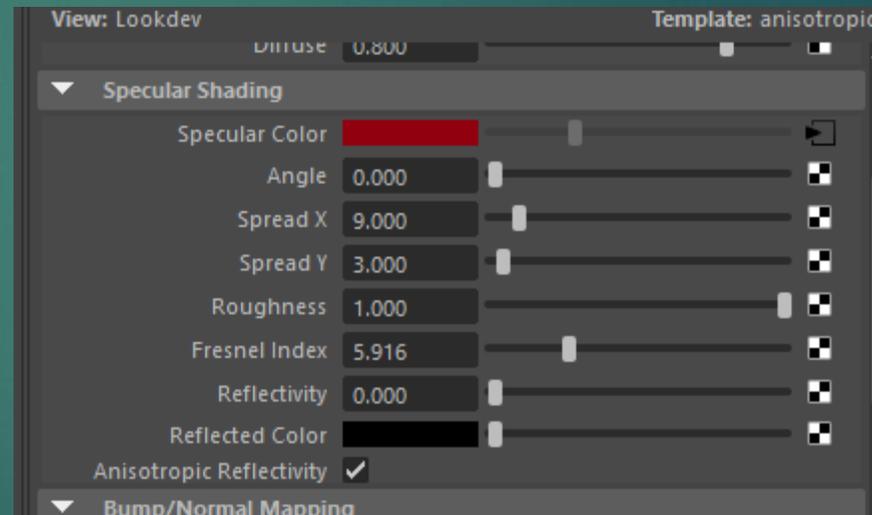
- kaashiHair is the anisotropic material, and highlightRamp is the ramp shader node.



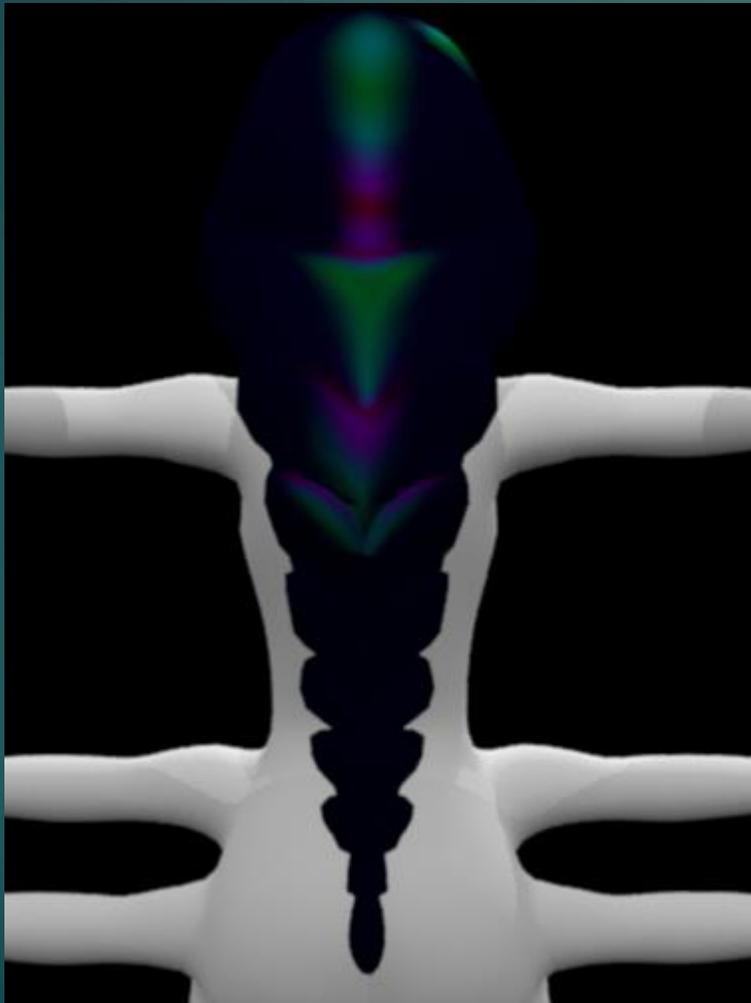
# The Anisotropic Material

- Anisotropic materials in Maya work well as hair, as well as shiny fabrics like velvets.
- A Blinn material was too shiny for the hair, as it caused the shader to look like opalescent stones, rather than the desired effect.

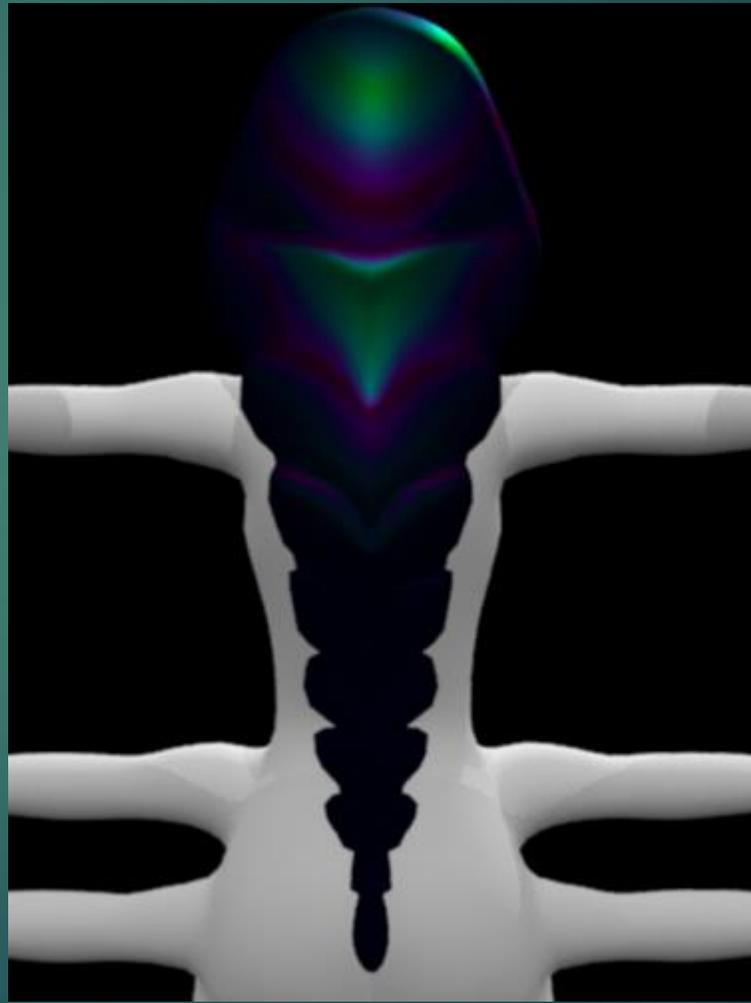
- The settings for the specular shading of the Anisotropic:
- Fresnel Index controls the brightness of the highlights, and Angle, Spread X, Spread Y, and Roughness control the spread of the highlight.



- The material as an Anisotropic (with an intense light):

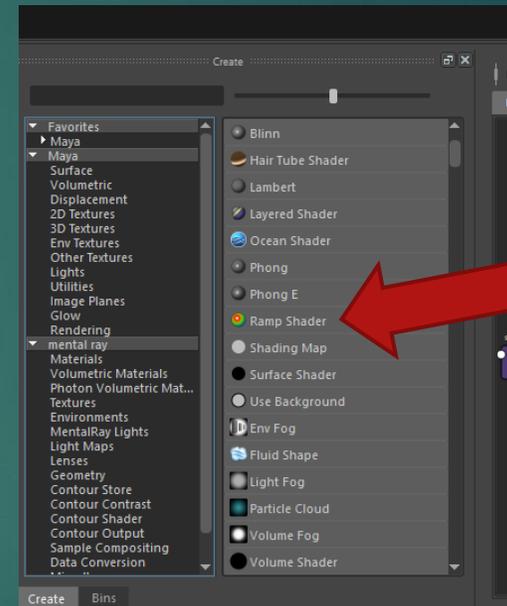
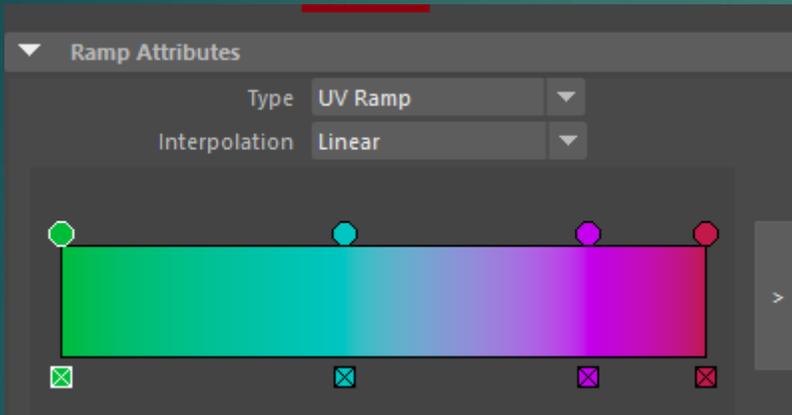


- The material as a Blinn (with an intense light):



# The Highlight Ramp Node

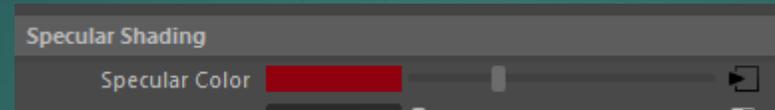
- A ramp shader node can be selected from the menu in the Hypershade.
- The ramp used for the hair shader:



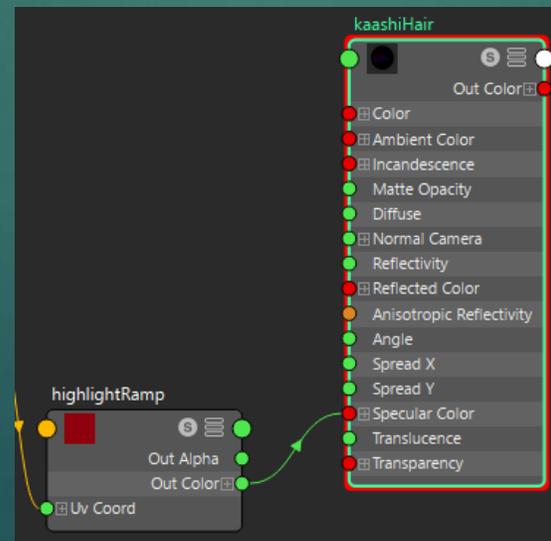
- A ramp shader allows you to select a specific color pattern for your shader, and gives you a lot of control over the way color interacts with light on your material.

# Specular Color

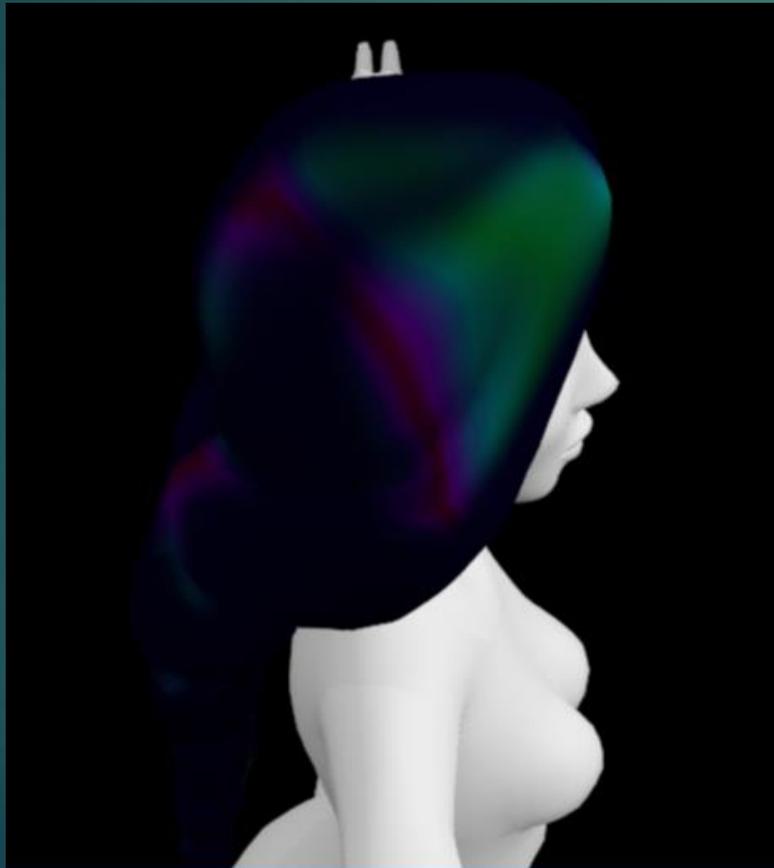
- The highlightRamp node's Out Color is input into the kaashiHair material's specular color attribute.



- Specular color controls the highlight color on a material that will appear when lights interact with that material's surface.
- The kaashiHair material will now use the ramp shader as its specular color, so the colors in the ramp will be reflected when light interacts with Asibikaashi's hair.



- kaashiHair with the ramp shader node input as its specular color:

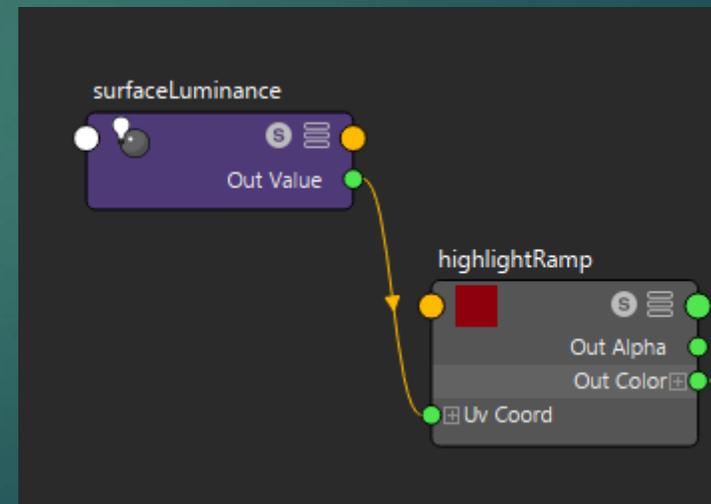


- kaashiHair with a single color input as its specular color:



# The Surface Luminance Node

- The surface luminance node can also be found in the menu in the Hypershade window.
- Surface luminance is a utility node that calculates how close lights are to a surface, and factors in the angles at which the lights are hitting an object.
- By connecting this node to the highlightRamp node, the shader's specular highlight now interacts with light in a way that better mimics a real iridescent material.



- The final node tree in the Hypershade is only 3 nodes, and is a simple solution for the look of Asibikaashi's hair.

