## **User Attributes**

User attributes are a convenient way to vary shading across multiple objects without changing a shading network. They are especially useful as they can vary across instances, unlike primitive variables.

## **Setting User Attributes**

Here is an example of how to set a color user attribute with an OpScript:

```
gb = GroupBuilder()
gb:set("value", FloatAttribute({0.0, 1.0, 0.0}, 3))
gb:set("type", StringAttribute("color"))
Interface.SetAttr("prmanStatements.attributes.user.myColor", gb:build())
```

While all user attributes can be set up as a GroupAttribute, color attributes are the only type that requires it. Int, float, and string user attributes can be set directly, with their type inferred from the Katana attribute type:

```
Interface.Set Attr("prmanStatements.attributes.user.myFloat", Float Attribute(3))\\
```

## **Using User Attributes**

RenderMan ships with several plugins that make use of user attributes. PxrAttribute or PxrVary are patterns that read user attributes. The PxrCryptomatte sample filter can create different outputs based on string user attributes. When using these plugins, the parameter for the attribute should include the prefix user: followed by the attribute name.