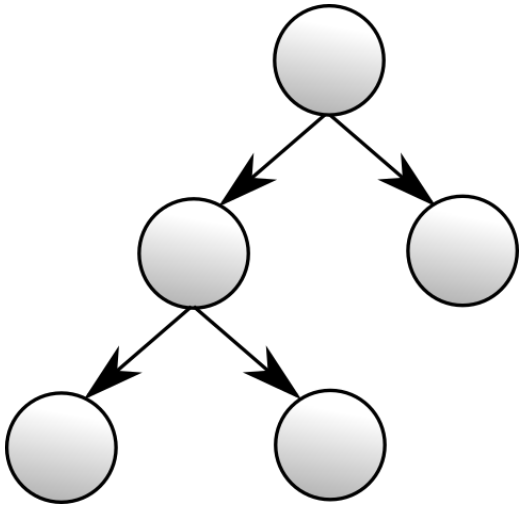
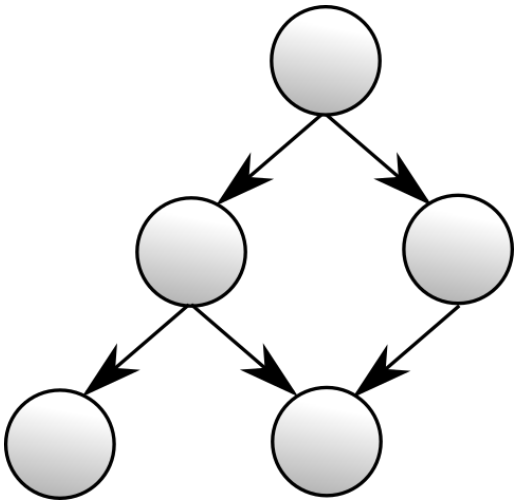
The Scenegraph
Recapitulation of Basic Concepts

Tim Weißker

Definition

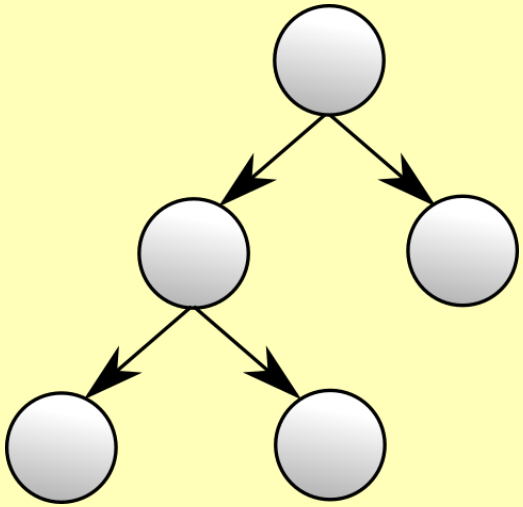


directed acyclic graph (single-parent)

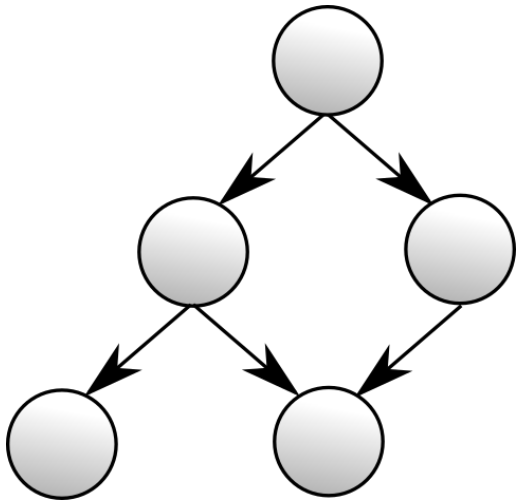


directed acyclic graph (multi-parent)

Definition

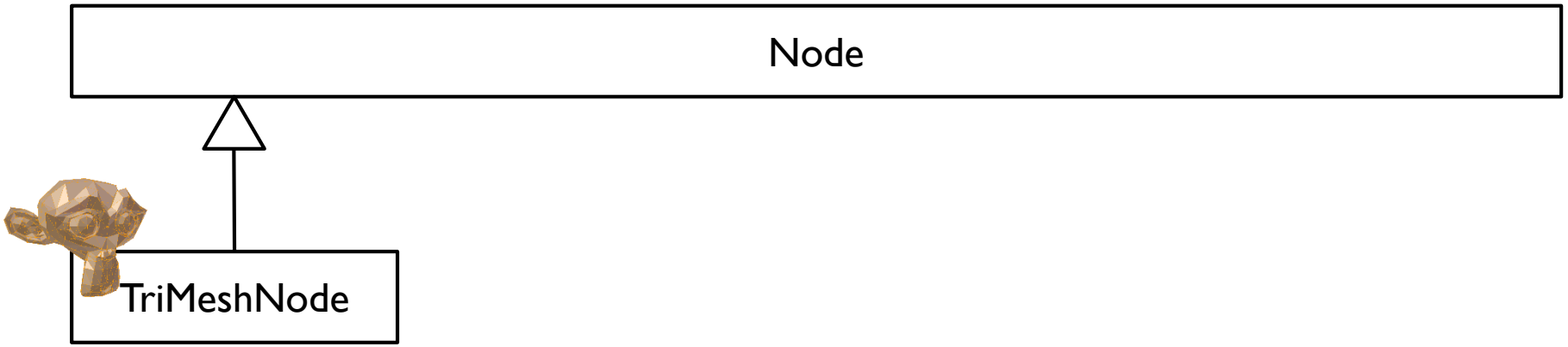


directed acyclic graph (single-parent)

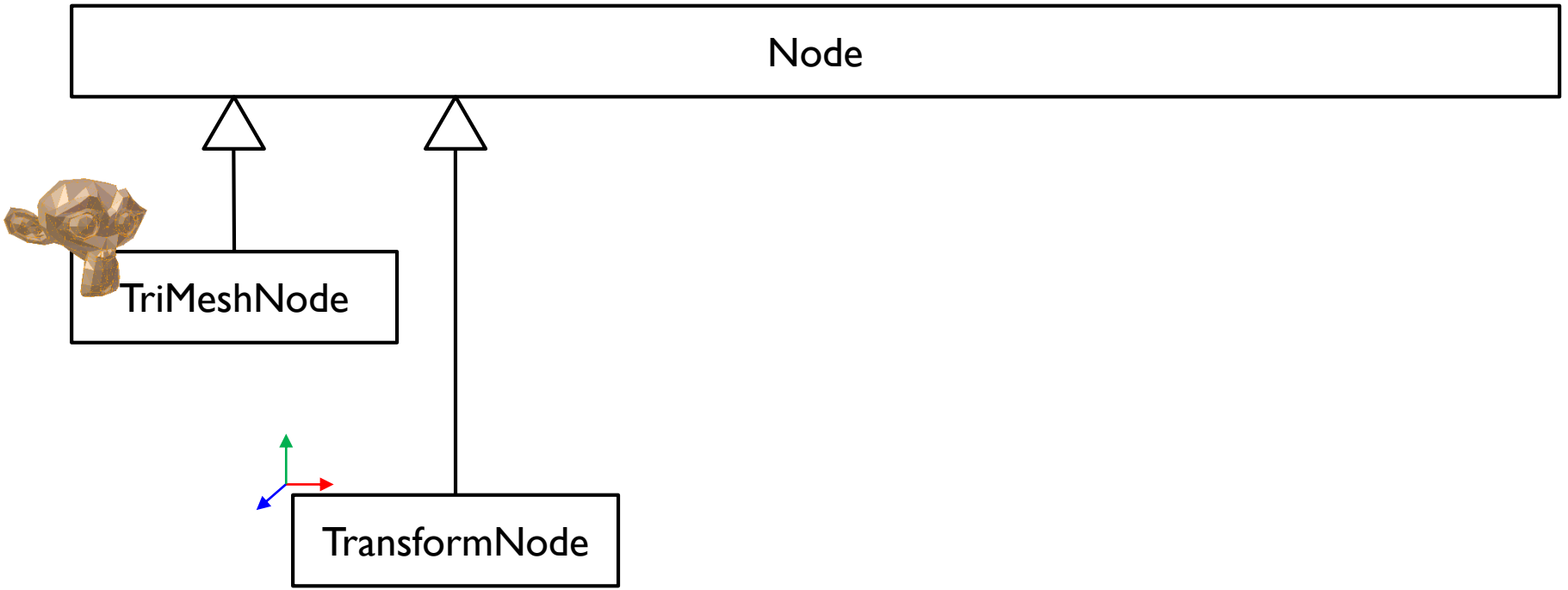


directed acyclic graph (multi-parent)

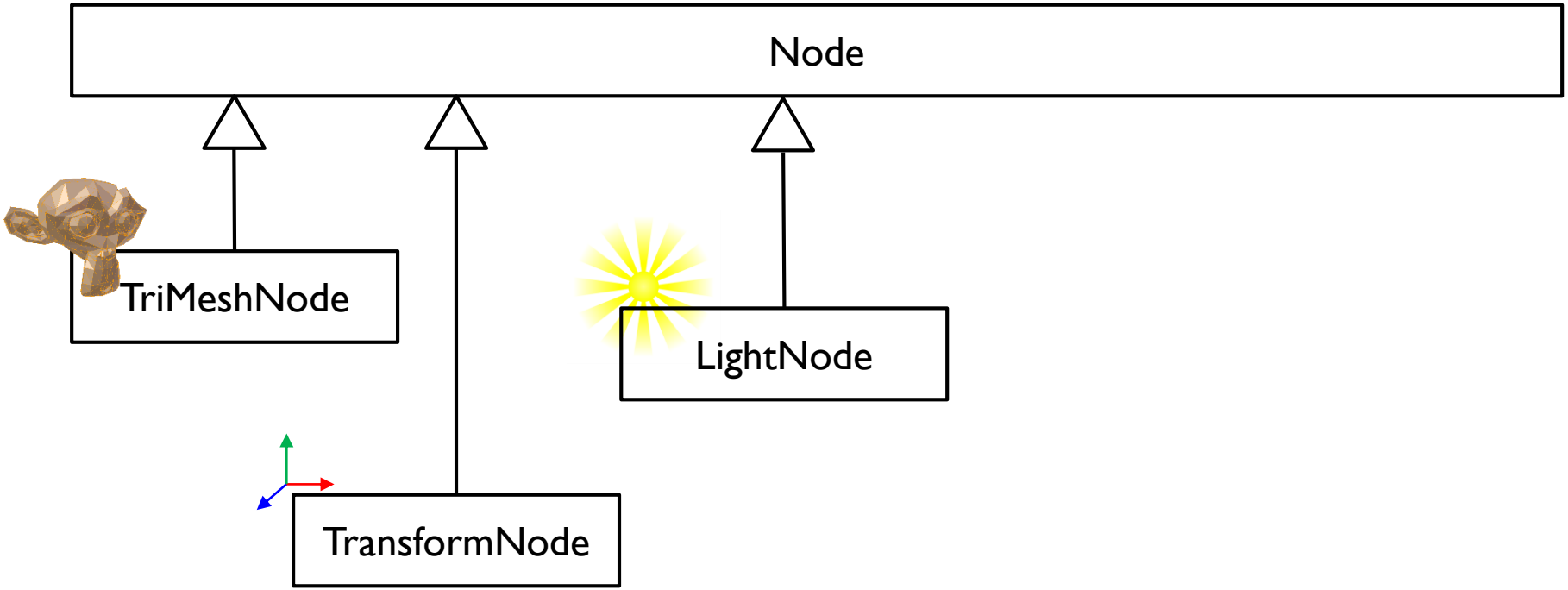
Node types (selection)



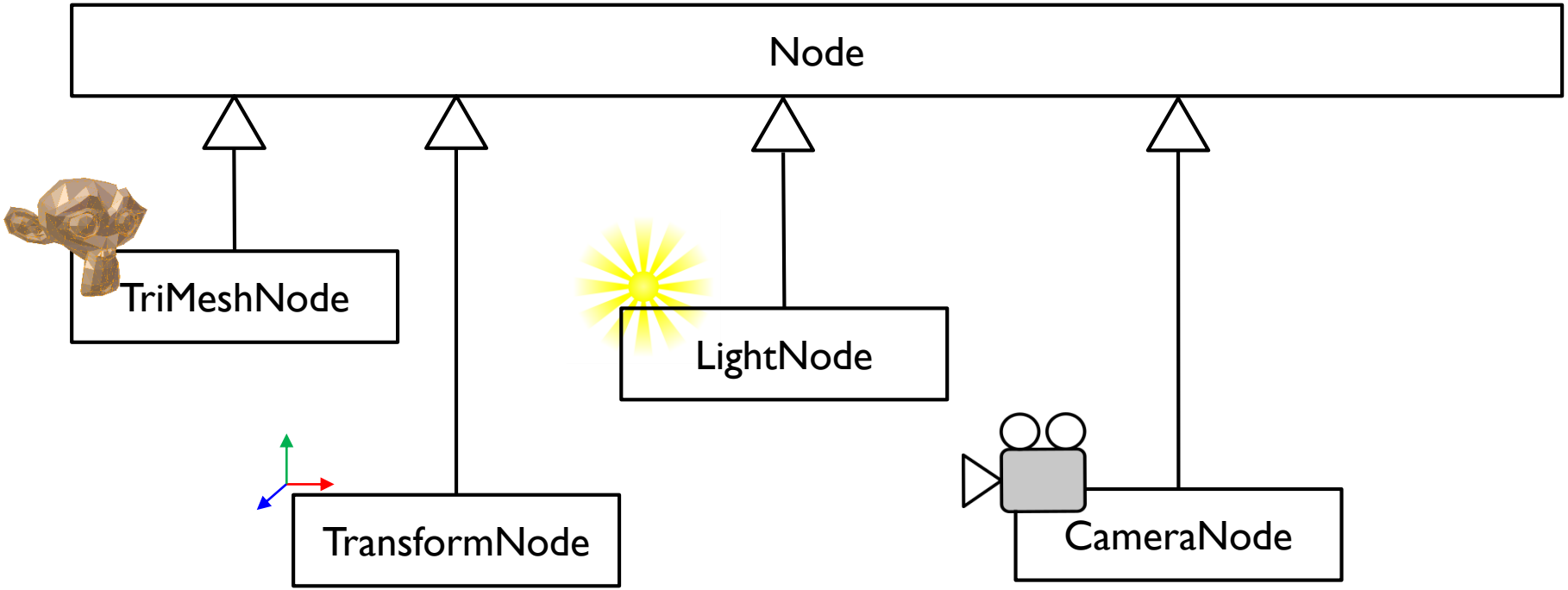
Node types (selection)



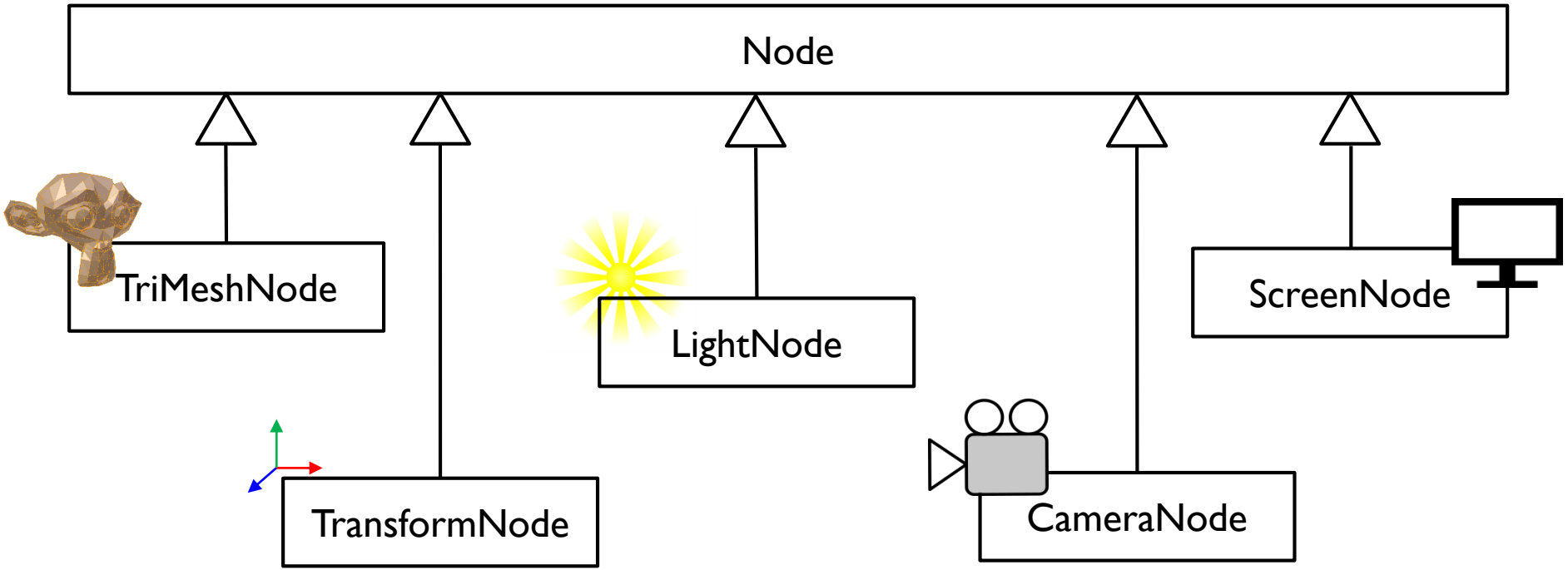
Node types (selection)



Node types (selection)



Node types (selection)

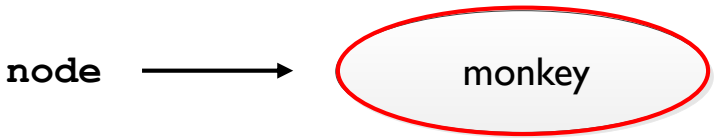


TriMeshLoader


```
loader = avango.gua.nodes.TriMeshLoader()
```

TriMeshLoader


```
loader = avango.gua.nodes.TriMeshLoader()

node = loader.create_geometry_from_file('monkey', 'monkey.obj',
                                        avango.gua.LoaderFlags.DEFAULTS)
```



TriMeshLoader

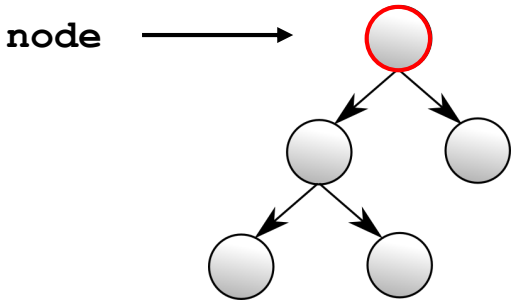

```
loader = avango.gua.nodes.TriMeshLoader()

node = loader.create_geometry_from_file('monkey', 'monkey.obj',
                                        avango.gua.LoaderFlags.DEFAULTS)
```

node → monkey

```
print(node.__class__.__name__)
TriMeshNode
```

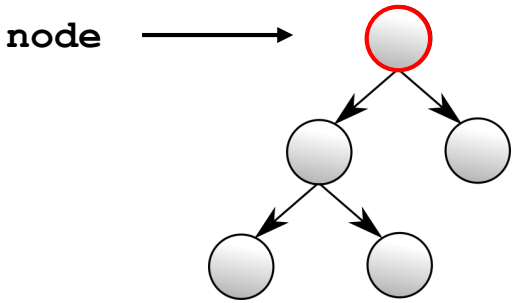
TriMeshLoader


```
loader = avango.gua.nodes.TriMeshLoader()

node = loader.create_geometry_from_file('car', 'car.obj',
                                        avango.gua.LoaderFlags.DEFAULTS)
```



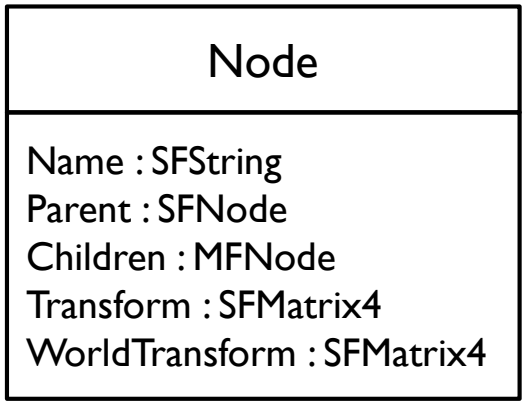
TriMeshLoader


```
loader = avango.gua.nodes.TriMeshLoader()

node = loader.create_geometry_from_file('car', 'car.obj',
                                        avango.gua.LoaderFlags.DEFAULTS)
```

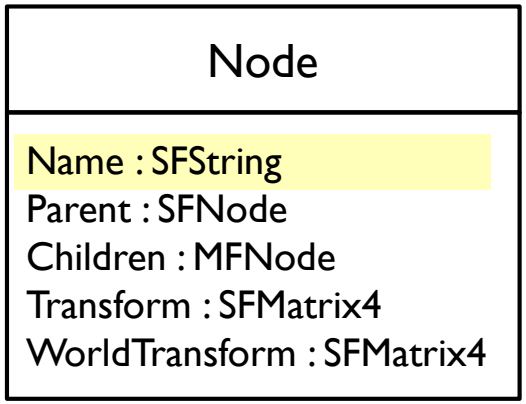



```
print(node.__class__.__name__)
TransformNode
```

Fields (selection)

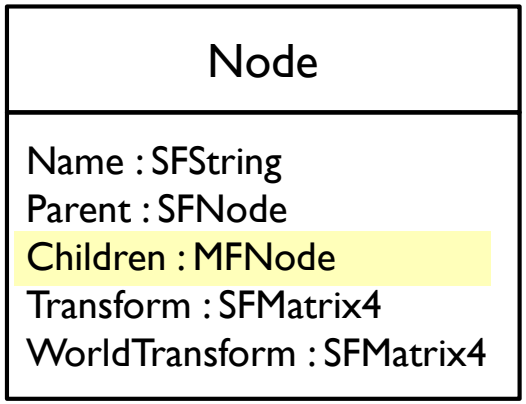


Fields (selection)



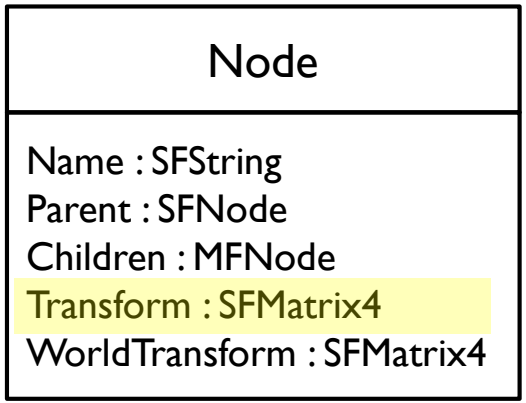

```
t = avango.gua.nodes.TransformNode(Name='group')
```

Fields (selection)




```
t = avango.gua.nodes.TransformNode(Name='group')

graph.Root.value.Children.value.append(t)
```

Fields (selection)



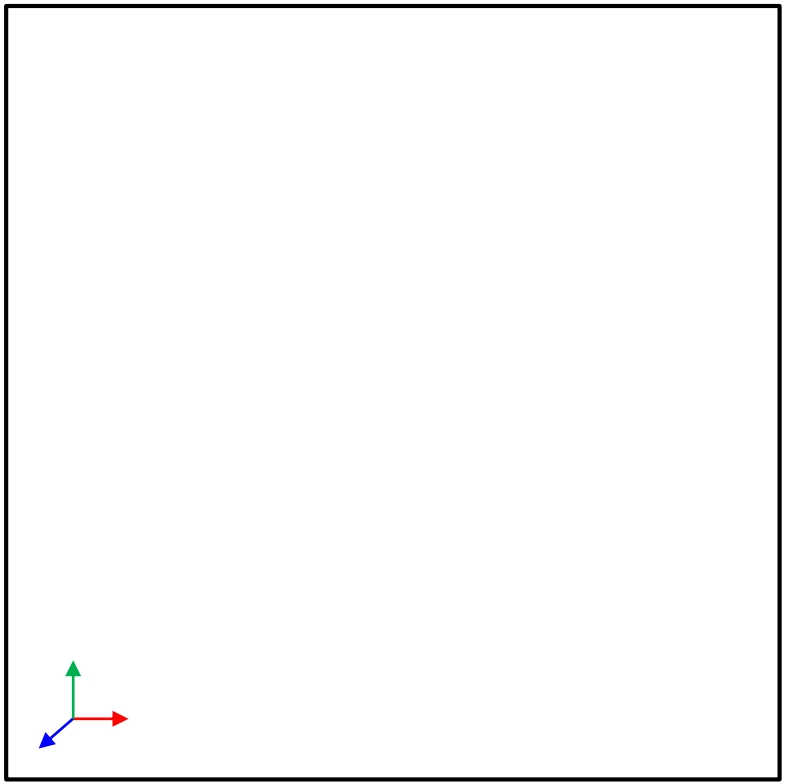

```
t = avango.gua.nodes.TransformNode(Name='group')

graph.Root.value.Children.value.append(t)

t.Transform.value = avango.gua.make_scale_mat(0.2)
```

Fields (selection)

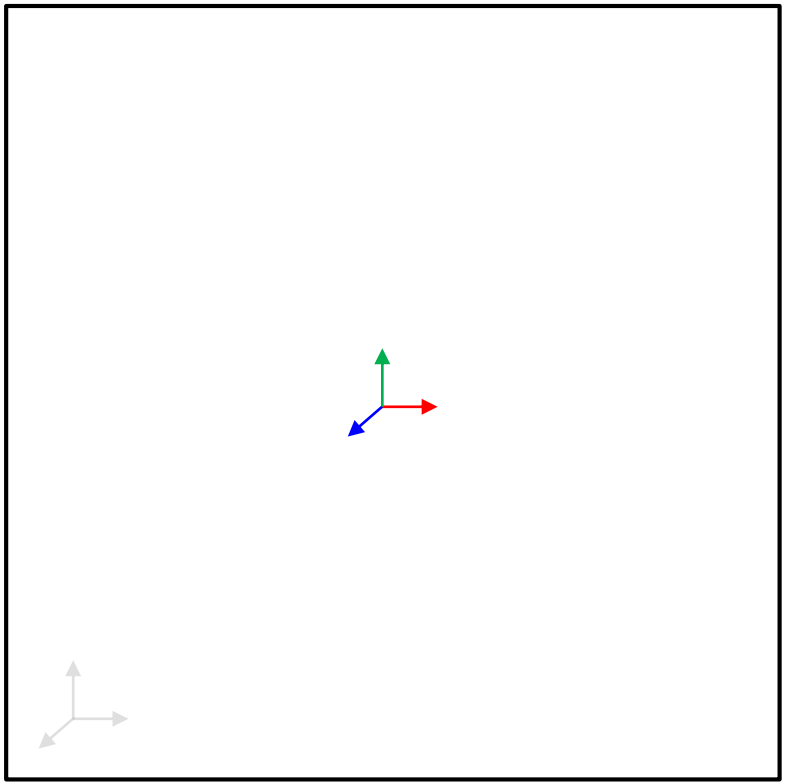
Node
Name : SFString Parent : SFNode Children : MFNode Transform : SFMatrix4 WorldTransform : SFMatrix4

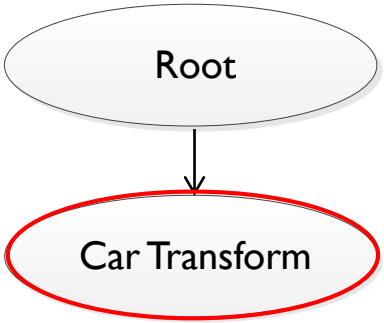
```
t = avango.gua.nodes.TransformNode(Name='group')

graph.Root.value.Children.value.append(t)

t.Transform.value = avango.gua.make_scale_mat(0.2)

print(t.WorldTransform.value)
```

Example

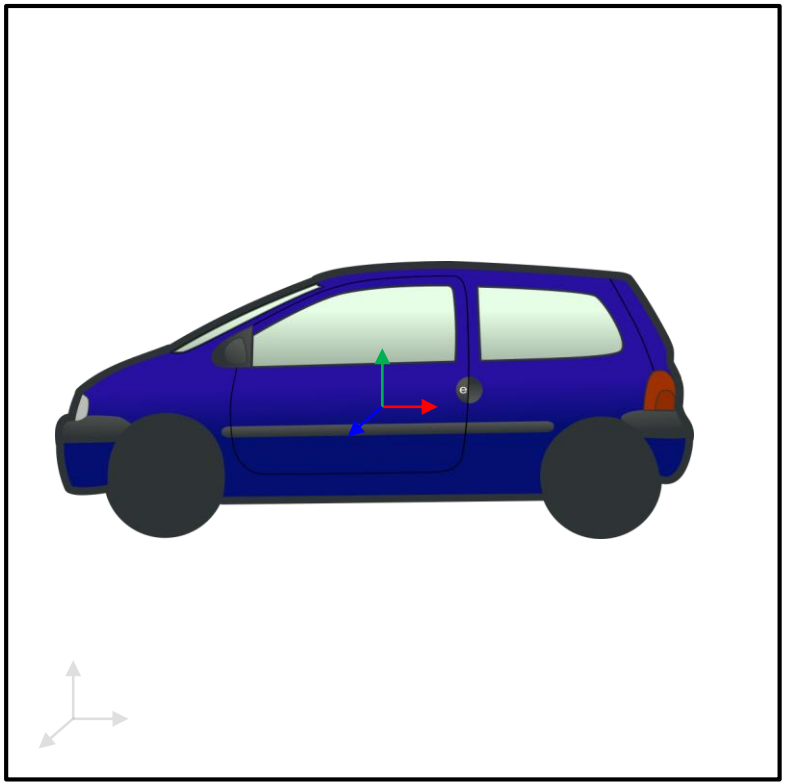


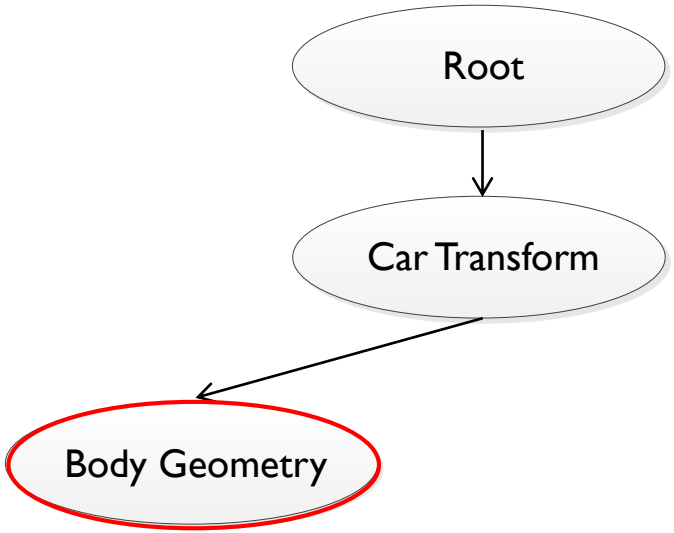
Example



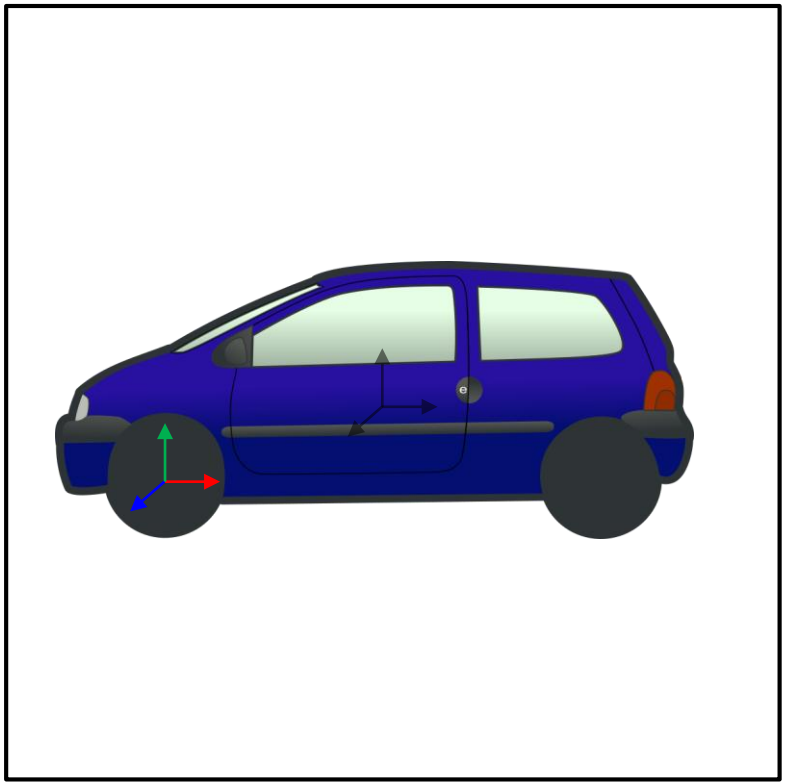


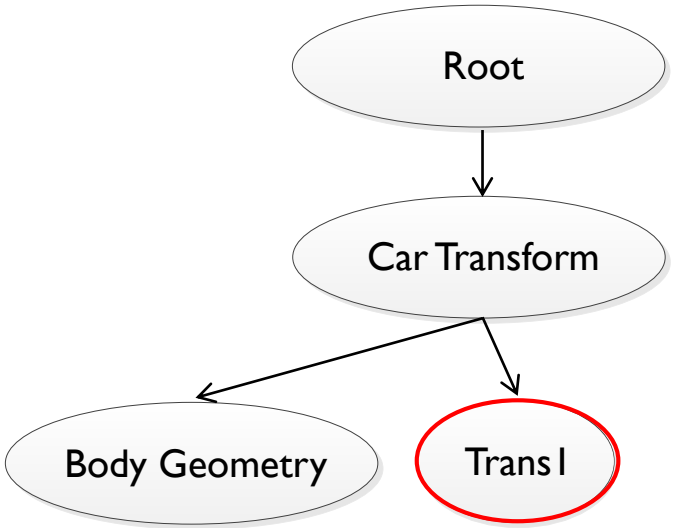
Example



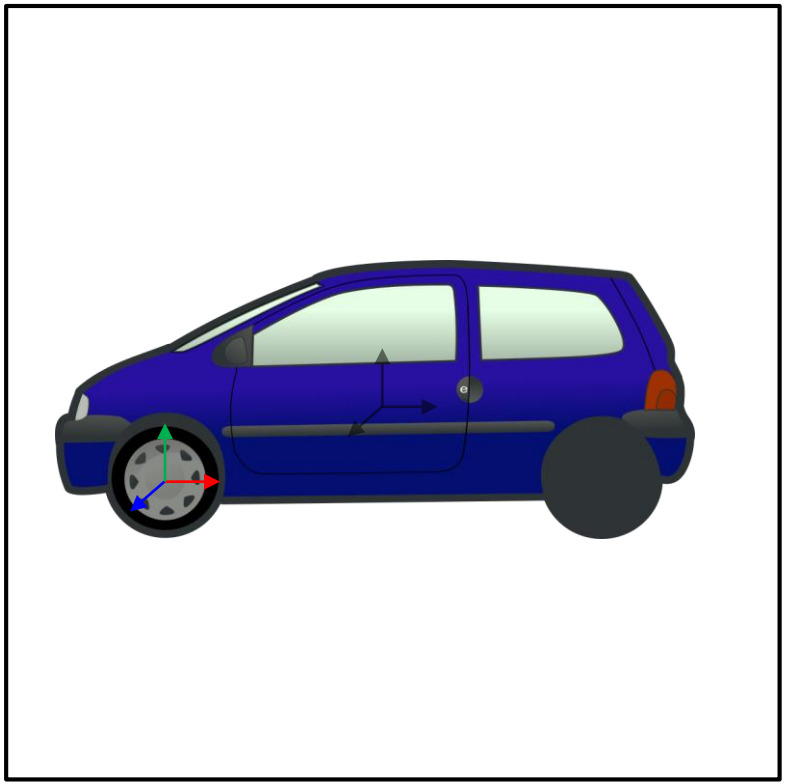


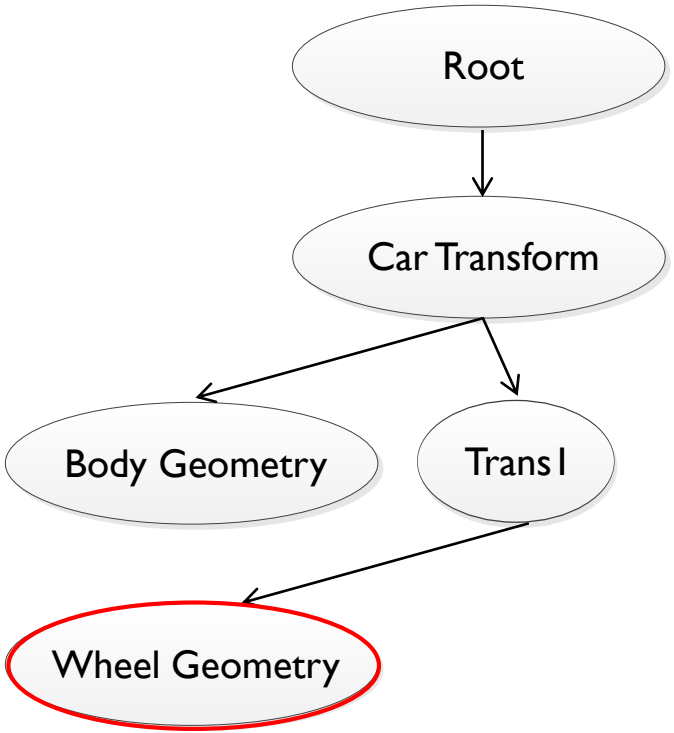
Example



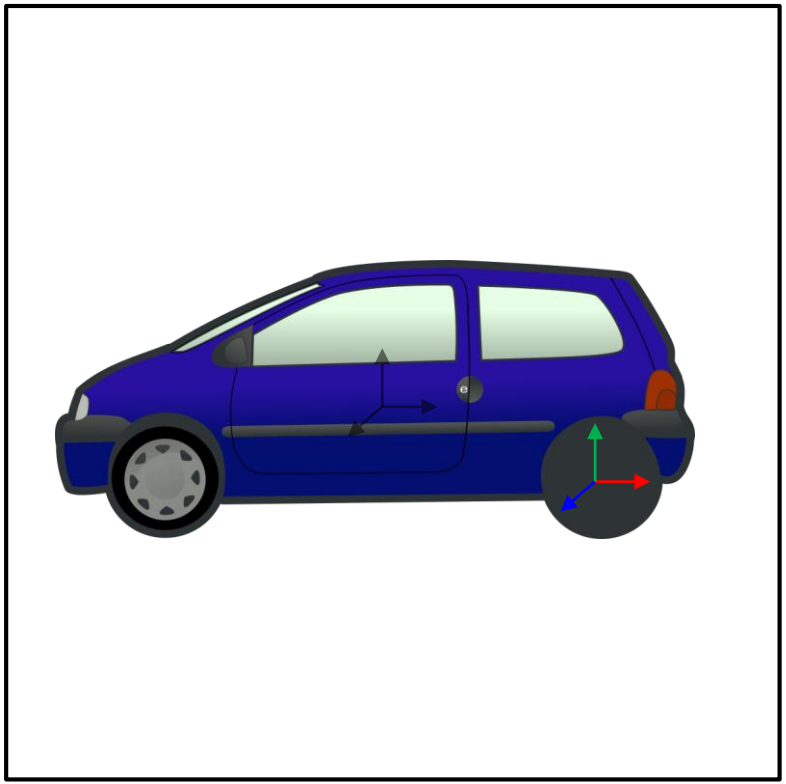


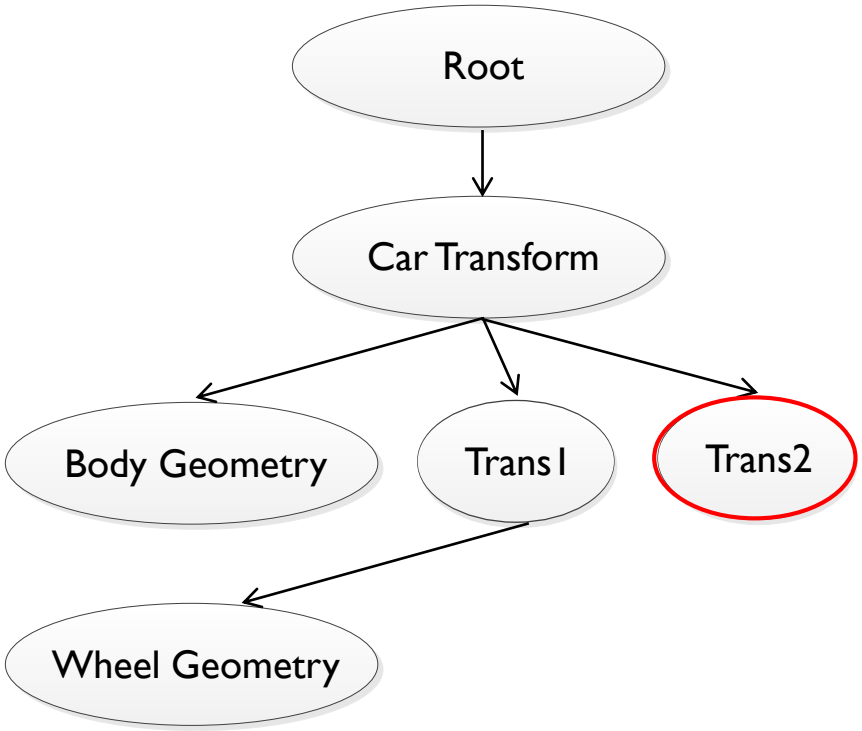
Example



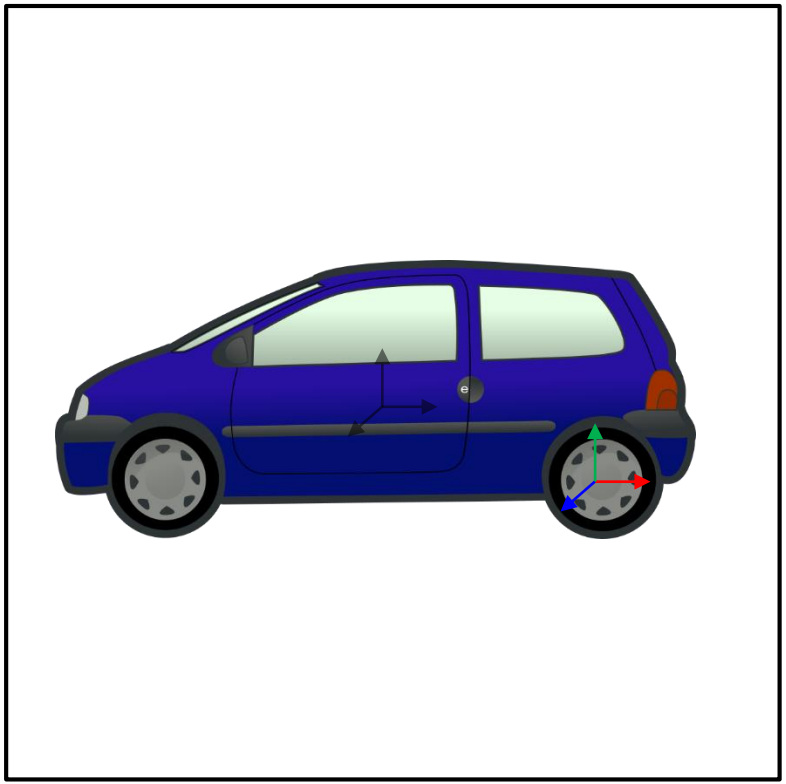


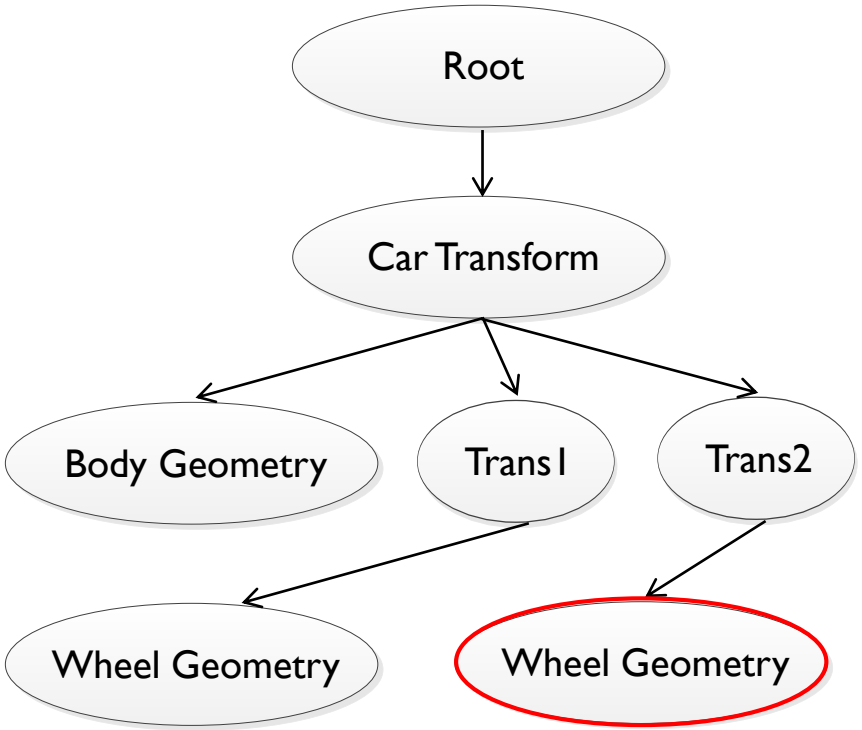
Example




Root
Car Transform
Body Geometry
Trans1
Trans2
Wheel Geometry

Example

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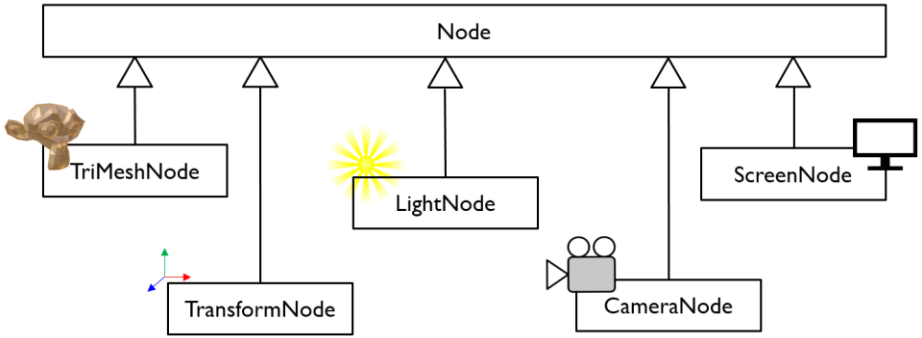
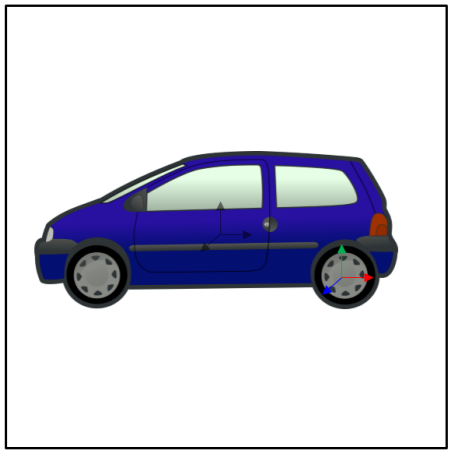
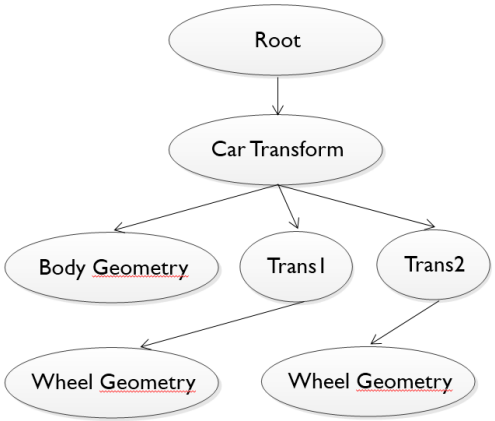
The Scenegraph

Questions?







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