

TBox USD Layer

```
class " _class_SOMA_namespace" (  
    prepend apiSchemas = ["RdfAPI"]  
)  
{  
    string rdf:namespace = "http://www.ease-crc.org/ont/SOMA.owl#"  
}  
  
def "SOMA"  
{  
    class " _class_KitchenCabinet" (  
        prepend apiSchemas = ["RdfAPI"]  
        prepend inherits = </_class_SOMA_namespace>  
    )  
    {  
        string rdf:conceptName = "KitchenCabinet"  
    }  
}
```

translate

```
<!-- http://www.ease-crc.org/ont/SOMA.owl#KitchenCabinet -->
```

```
<owl:Class rdf:about="http://www.ease-crc.org/ont/SOMA.owl#KitchenCabinet">  
    <rdfs:subClassOf rdf:resource="http://www.ease-crc.org/ont/SOMA.owl#Cupboard" />  
    <rdfs:comment>A cupboard designed to be used in kitchen environments.</rdfs:comment>  
</owl:Class>
```

semantic tagging

```
def Xform "cabinet2" (  
    prepend apiSchemas = ["SemanticTagAPI"]  
)  
{  
    prepend rel semanticTag:semanticLabels = [</SOMA/ class KitchenCabinet>  
    matrix4d xformOp:transform = ( (-1, 1.2246467991473532e-16, 0, 0), (-1.2246467991473532e-16, -1, 0, 0), (0, 0,  
    uniform token[] xformOpOrder = ["xformOp:transform"]  
)  
  
    def Xform "cabinet2_visual 0" (  
        prepend references = @./apartment/usd/meshes/visual/SM_Kitchen_02_Base.usda@</SM_Kitchen_02_Base>  
    )  
    {  
        matrix4d xformOp:transform = ( (1, 0, 0, 0), (0, 1, 0, 0), (0, 0, 1, 0), (0, 0, 0, 1) )  
        uniform token[] xformOpOrder = ["xformOp:transform"]  
    }  
}
```

translate

```
<USD:Prim rdf:about="https://ease-crc.org/ont/USD.owl#cabinet2">  
    <rdf:type rdf:resource="http://www.w3.org/2002/07/owl#NamedIndividual" />  
    <rdf:type rdf:resource="http://www.ease-crc.org/ont/SOMA.owl#KitchenCabinet" />  
    <DUL:hasQuality rdf:resource="http://www.ontologydesignpatterns.org/ont/dul/DUL.owl#cabinet2\_xformOpOrder" />  
    <DUL:hasQuality rdf:resource="http://www.ontologydesignpatterns.org/ont/dul/DUL.owl#cabinet2\_xformOp\_transform" />  
    <rdf:type>  
        <owl:Restriction>  
            <owl:onProperty rdf:resource="https://ease-crc.org/ont/USD.owl#hasTypedSchema" />  
            <owl:someValuesFrom rdf:resource="https://ease-crc.org/ont/USD.owl#XformSchema" />  
        </owl:Restriction>  
    </rdf:type>  
    <DUL:hasPart rdf:resource="https://ease-crc.org/ont/USD.owl#cabinet2\_visual\_0" />  
    <DUL:hasPart rdf:resource="https://ease-crc.org/ont/USD.owl#cabinet2\_collision\_0" />  
    <DUL:hasPart rdf:resource="https://ease-crc.org/ont/USD.owl#cabinet2\_door\_joint" />  
    <DUL:hasPart rdf:resource="https://ease-crc.org/ont/USD.owl#cabinet2\_shelf" />  
    <DUL:hasPart rdf:resource="https://ease-crc.org/ont/USD.owl#cabinet2\_drawer1\_joint" />  
    <DUL:hasPart rdf:resource="https://ease-crc.org/ont/USD.owl#cabinet2\_drawer2\_joint" />  
</USD:Prim>
```

Semantic USD Scene Graph

Knowledge Graph