

Basic objects

Product

: public Instance

```
+using super::super
+virtual TAG() -> string := "product"
```

Wrapper

: public EntityArray<Wrap>,
public Instance

```
#price: double
#thickness: double

+Wrapper()
+Wrapper(Wrapper)
+Wrapper(...args)
+virtual construct(XML)
#virtual createChild() -> Wrap
+virtual TAG() -> string := "wrapper"
+virtual CHILD_TAG() -> string
+virtual toXML() -> XML
```

Represents wrapping, the capsulation

Wrap

: public Entity

```
#wrapper: Wrapper
#instance: Instance
#x: double
#y: double
#z: double
#direction: int

+Wrap(Wrapper, Instance)
+virtual construct(XML)
+{getters with calculation()} -> double
+virtual TAG() -> string = "wrap"
+virtual toXML() -> XML
```

Wrapped by

Instance

: public virtual Entity

```
#name: string
#width: double
#length: double
#height: double
#weight: double

+Instance()
+Instance(Instance)
+Instance(...args)
+virtual construct(XML)
+virtual toXML() -> XML
```

InstanceArray

: public EntityArray<Product>

```
+using super::super
#virtual createChild() -> Product
+virtual TAG() -> strig = "instanceArray"
+virtual CHILD_TAG() -> string
```

WrapperArray

: public EntityArray<Wrapper>

```
+using super::super
#virtual createChild() -> Wrapper
+virtual TAG() -> string := "wrapperArray"
+virtual CHILD_TAG() -> string
```

Optimizers

WrapperGroup

: public WrapperArray

```
#sample: Wrapper
#instanceArray: InstanceArray

+WrapperGroup()
+WrapperGroup(... members of wrapper)
+WrapperGroup(Wrapper)
+WrapperGroup(WrapperGroup)
+reserve(Product) -> bool
+optimize()
#pack(InstanceArray) -> InstanceArray
+getPrice() -> double
+virtual TAG() -> string := "wrapperGroup"
```

BinPacker

```
#wrapper: Wrapper
#instances: InstanceArray
#leftInstances: InstanceArray

+BinPacker(Wrapper, InstanceArray)
+pack() -> pair<Wrapper, InstanceArray>
```

GAWrapperArray

: public WrapperArray

```
#instanceArray: InstanceArray
#result: HashDictionary<WrapperGroup>

+GAWrapperArray(InstanceArray)
+GAWrapperArray(GAWrapperArray)
#constructResult()
+operator<(GAWrapperArray) -> bool
```

Packer

: public Entity

```
#wrapperArray: WrapperArray
#instanceArray: InstanceArray

+Packer(Packer)
+Packer(WrapperArray, instanceArray)
#virtual createChild() -> WrapperGroup
+optimize() -> WrapperArray
+virtual TAG() -> string := "packer"
+virtual CHILD_TAG() -> string
```

referenced

External
3D Bin Packer
Library