

# DiagrammeDeClasses\_Composite

Package in package 'Model'

DiagrammeDeClasses\_Composite

Version Phase 1.0 Proposed

bodiaa created on 2019-06-18. Last modified 2019-06-18

## DiagrammeDeClasses\_Composite diagram

Class diagram in package 'DiagrammeDeClasses\_Composite'

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Version 1.0

bodiaa created on 2019-06-18. Last modified 2019-06-18

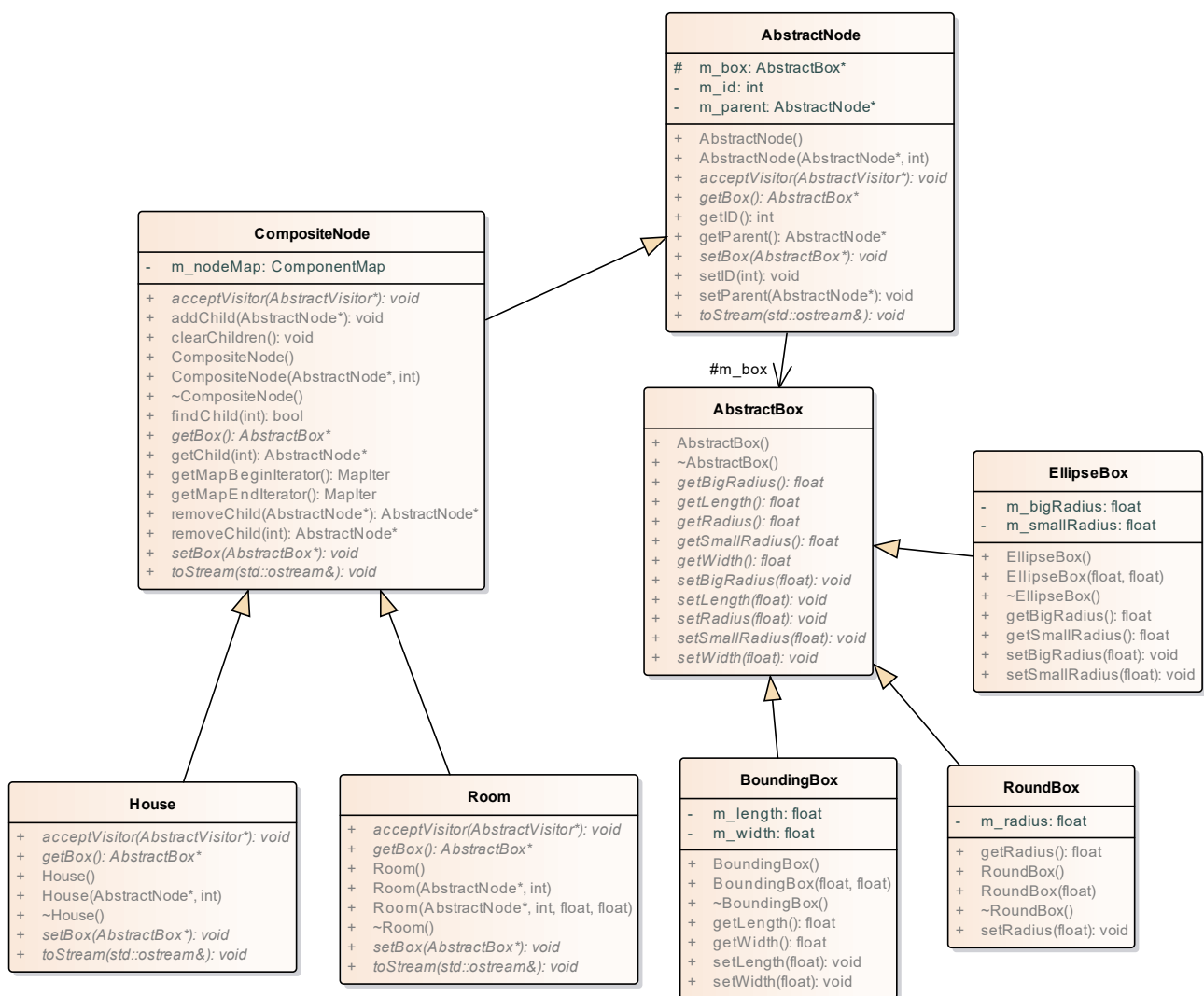


Figure 1: DiagrammeDeClasses\_Composite

## AbstractBox

Class in package 'Class Model'

AbstractBox

Version 1.0 Phase 1.0 Proposed

bodiaa created on 2019-06-18. Last modified 2019-06-18

**INCOMING STRUCTURAL RELATIONSHIPS**

⇒ Generalization from `RoundBox` to `AbstractBox`

[ Direction is 'Source -> Destination'. ]

⇒ Generalization from `BoundingBox` to `AbstractBox`

[ Direction is 'Source -> Destination'. ]

⇒ Generalization from `EllipseBox` to `AbstractBox`

[ Direction is 'Source -> Destination'. ]

**ASSOCIATIONS**

 Association (direction: Source -> Destination)

Source: Public (Class) `AbstractNode`

Target: Protected `m_box` (Class) `AbstractBox`

**OPERATIONS**

 `AbstractBox ()` : Public

Properties:

`bodyLocation` = classDec


[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

 `~AbstractBox ()` : Public

Properties:

`bodyLocation` = classDec


[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

 `getBigRadius ()` : float Public Const

Properties:

`bodyLocation` = classDec


[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

 `getLength ()` : float Public Const

Properties:

`bodyLocation` = classDec


[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

 `getRadius ()` : float Public Const

Properties:

`bodyLocation` = classDec

[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

 `getSmallRadius ()` : float Public Const

**OPERATIONS**

Properties:

bodyLocation = classDec

[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

◆ getWidth () : float Public Const

Properties:

bodyLocation = classDec

[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

◆ setBigRadius (radius : float ) : void Public

Properties:

bodyLocation = classDec

[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

◆ setLength (length : float ) : void Public

Properties:

bodyLocation = classDec

[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

◆ setRadius (radius : float ) : void Public

Properties:

bodyLocation = classDec

[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

◆ setSmallRadius (radius : float ) : void Public

Properties:

bodyLocation = classDec

[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

◆ setWidth (width : float ) : void Public

Properties:

bodyLocation = classDec

[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

**AbstractNode***Class in package 'Class Model'*

AbstractNode

Version 1.0 Phase 1.0 Proposed

bodiaa created on 2019-06-18. Last modified 2019-06-18

**INCOMING STRUCTURAL RELATIONSHIPS**

**INCOMING STRUCTURAL RELATIONSHIPS**

⇒ Generalization from CompositeNode to AbstractNode

[ Direction is 'Source -> Destination'. ]

⇒ Generalization from Obstacle to AbstractNode

[ Direction is 'Source -> Destination'. ]

**ATTRIBUTES**

◆ m\_box : AbstractBox\* Protected

[ Is static False. Containment is Not Specified. ]

◆ m\_id : int Private

[ Is static False. Containment is Not Specified. ]

◆ m\_parent : AbstractNode\* Private

[ Is static False. Containment is Not Specified. ]

**ASSOCIATIONS**

✍ . Association (direction: Source -> Destination)

Source: Public (Class) AbstractNode

Target: Protected m\_box (Class) AbstractBox

✍ . Association (direction: Source -> Destination)

Source: Public (Class) ObstacleDetectionCommand

Target: Private m\_root (Class) AbstractNode

✍ . Association (direction: Source -> Destination)

Source: Public (Class) TotalSurfaceCalculatorCommand

Target: Private m\_root (Class) AbstractNode

**OPERATIONS**

◆ AbstractNode () : Public

Properties:

initializer = m\_parent(nullptr),m\_id(0)

bodyLocation = classDec

[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]


◆ AbstractNode (parent : AbstractNode\* , id : int ) : Public

Properties:

initializer = m\_parent(parent),m\_id(id)

bodyLocation = classDec

[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

OPERATIONS	
 <b>acceptVisitor (visitor : AbstractVisitor* ) : void Public</b> [ Is static False. Is abstract True. Is return array False. Is query False. Is synchronized False. ]	
 <b>getBox () : AbstractBox* Public</b> [ Is static False. Is abstract True. Is return array False. Is query False. Is synchronized False. ]	
 <b>getID () : int Public Const</b>  Properties: bodyLocation = classDec [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]	
 <b>getParent () : AbstractNode* Public Const</b>  Properties: bodyLocation = classDec [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]	
 <b>setBox (box : AbstractBox* ) : void Public</b> [ Is static False. Is abstract True. Is return array False. Is query False. Is synchronized False. ]	
 <b>setID (id : int ) : void Public</b>  Properties: bodyLocation = classDec [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]	
 <b>setParent (parent : AbstractNode* ) : void Public</b>  Properties: bodyLocation = classDec [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]	
 <b>toStream (s : std::ostream&amp; ) : void Public</b> [ Is static False. Is abstract True. Is return array False. Is query False. Is synchronized False. ]	

## BoundingBox

*Class in package 'Class Model'*

BoundingBox  
Version 1.0 Phase 1.0 Proposed  
bodiaa created on 2019-06-18. Last modified 2019-06-18

OUTGOING STRUCTURAL RELATIONSHIPS	
 Generalization from BoundingBox to AbstractBox	[ Direction is 'Source -> Destination'. ]

**ATTRIBUTES****m\_length** : float Private

[ Is static False. Containment is Not Specified. ]

**m\_width** : float Private

[ Is static False. Containment is Not Specified. ]

**OPERATIONS****BoundingBox ()** : Public

Properties:

bodyLocation = classDec

[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

**BoundingBox (width : float , length : float )** : Public

Properties:

initializer = m\_width(width),m\_length(length)

bodyLocation = classDec

[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

**~BoundingBox ()** : Public

Properties:

bodyLocation = classDec

[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

**getLength ()** : float Public Const

Properties:

bodyLocation = classDec

[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

**getWidth ()** : float Public Const

Properties:

bodyLocation = classDec

[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

**setLength (length : float )** : void Public

Properties:

bodyLocation = classDec

[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

**setWidth (width : float )** : void Public

Properties:

bodyLocation = classDec

[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

## CompositeNode

*Class in package 'Class Model'*

CompositeNode  
Version 1.0 Phase 1.0 Proposed  
bodiaa created on 2019-06-18. Last modified 2019-06-18

### OUTGOING STRUCTURAL RELATIONSHIPS

↳ Generalization from CompositeNode to AbstractNode  
[ Direction is 'Source -> Destination'. ]

### INCOMING STRUCTURAL RELATIONSHIPS

⇒ Generalization from Room to CompositeNode  
[ Direction is 'Source -> Destination'. ]

⇒ Generalization from House to CompositeNode  
[ Direction is 'Source -> Destination'. ]

### ATTRIBUTES

◆ m\_nodeMap : ComponentMap Private  
[ Is static False. Containment is Not Specified. ]

### ASSOCIATIONS

✎ . Association (direction: Source -> Destination)  
Source: Public (Class) CompositeNode  
Target: Private m\_nodeMap (Class)  
ComponentMap «typedef»












### OPERATIONS

◆ acceptVisitor (visitor : AbstractVisitor\* ) : void Public  
[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

◆ addChild (node : AbstractNode\* ) : void Public  
[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

◆ clearChildren () : void Public  
[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

◆ CompositeNode () : Public  
Properties:  
initializer = AbstractNode()

OPERATIONS	
	[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]
 <b>CompositeNode (parent : AbstractNode* , id : int ) : Public</b> Properties: initializer = AbstractNode(parent, id) [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]	
 <b>~CompositeNode () : Public</b> Properties: bodyLocation = classDec [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]	
 <b>findChild (id : int ) : bool Public</b> [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]	
 <b>getBox () : AbstractBox* Public</b> [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]	
 <b>getChild (id : int ) : AbstractNode* Public</b> [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]	
 <b>getMapBeginIterator () : MapIter Public</b> Properties: bodyLocation = classDec [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]	
 <b>getMapEndIterator () : MapIter Public</b> Properties: bodyLocation = classDec [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]	
 <b>removeChild (node : AbstractNode* ) : AbstractNode* Public</b> [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]	
 <b>removeChild (id : int ) : AbstractNode* Public</b> [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]	
 <b>setBox (box : AbstractBox* ) : void Public</b> [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]	
 <b>toStream (s : std::ostream&amp; ) : void Public</b> return nullptr; [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]	



## OPERATIONS

## EllipseBox

*Class in package 'Class Model'*

EllipseBox

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## OUTGOING STRUCTURAL RELATIONSHIPS

← Generalization from EllipseBox to AbstractBox

[ Direction is 'Source -> Destination'. ]

## ATTRIBUTES

◆ m\_bigRadius : float Private

[ Is static False. Containment is Not Specified. ]

◆ m\_smallRadius : float Private

[ Is static False. Containment is Not Specified. ]

## OPERATIONS

◆ EllipseBox () : Public

Properties:

bodyLocation = classDec

[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

◆ EllipseBox (bigRadius : float , smallRadius : float ) : Public

Properties:

initializer = m\_bigRadius(bigRadius),m\_smallRadius(smallRadius)

bodyLocation = classDec

[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

◆ ~EllipseBox () : Public

Properties:

bodyLocation = classDec

[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

◆ getBigRadius () : float Public Const

Properties:

bodyLocation = classDec

[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

**OPERATIONS**

◆ getSmallRadius () : float Public Const

Properties:

bodyLocation = classDec

[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

◆ setBigRadius (radius : float ) : void Public

Properties:

bodyLocation = classDec

[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

◆ setSmallRadius (radius : float ) : void Public

Properties:

bodyLocation = classDec

[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

## House

*Class in package 'Class Model'*

House  
Version 1.0 Phase 1.0 Proposed  
bodiaa created on 2019-06-18. Last modified 2019-06-18

**OUTGOING STRUCTURAL RELATIONSHIPS**

← Generalization from House to CompositeNode

[ Direction is 'Source -> Destination'. ]

**OPERATIONS**

◆ acceptVisitor (visitor : AbstractVisitor\* ) : void Public

[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

◆ getBox () : AbstractBox\* Public

[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

◆ House () : Public

Properties:

initializer = CompositeNode()

[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

◆ House (parent : AbstractNode\* , id : int ) : Public

Properties:

initializer = CompositeNode(parent, id)

[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

**OPERATIONS**

◆ ~House () : Public

Properties:

bodyLocation = classDec

[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

◆ setBox (box : AbstractBox\* ) : void Public

[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

◆ toStream (s : std::ostream& ) : void Public

[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

## Room

*Class in package 'Class Model'*

Room

Version 1.0 Phase 1.0 Proposed

bodiaa created on 2019-06-18. Last modified 2019-06-18

**OUTGOING STRUCTURAL RELATIONSHIPS**

↳ Generalization from Room to CompositeNode

[ Direction is 'Source -> Destination'. ]

**OPERATIONS**

◆ acceptVisitor (visitor : AbstractVisitor\* ) : void Public

[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

◆ getBox () : AbstractBox\* Public

[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

◆ Room () : Public

Properties:

initializer = CompositeNode()

[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

◆ Room (parent : AbstractNode\* , id : int ) : Public




Properties:

initializer = CompositeNode(parent, id)

[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

◆ Room (parent : AbstractNode\* , id : int , width : float , length : float ) : Public

Properties:


OPERATIONS
<b>initializer = CompositeNode(parent, id)</b> [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]
 <b>~Room () : Public</b>  Properties: <b>bodyLocation = classDec</b> [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]
 <b>setBox (box : AbstractBox* ) : void Public</b> [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]
 <b>toStream (s : std::ostream&amp; ) : void Public</b> [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]




## RoundBox

*Class in package 'Class Model'*

RoundBox  
Version 1.0 Phase 1.0 Proposed  
bodiaa created on 2019-06-18. Last modified 2019-06-18

OUTGOING STRUCTURAL RELATIONSHIPS
 Generalization from RoundBox to AbstractBox [ Direction is 'Source -> Destination'. ]

ATTRIBUTES
 <b>m_radius : float Private</b> [ Is static False. Containment is Not Specified. ]

OPERATIONS
 <b>getRadius () : float Public Const</b>  Properties: <b>bodyLocation = classDec</b> [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]
 <b>RoundBox () : Public</b>  Properties: <b>bodyLocation = classDec</b> [ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]
 <b>RoundBox (radius : float ) : Public</b>

**OPERATIONS**

Properties:

**initializer = m\_radius(radius)****bodyLocation = classDec**

[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

**~RoundBox () : Public**

Properties:

**bodyLocation = classDec**

[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]

**setRadius (radius : float ) : void Public**

Properties:

**bodyLocation = classDec**

[ Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False. ]