

JHotDraw 5.1

Adapter

1(BL)

Target: draw.framework.Figure

Adapter: draw.standard.AbstractFigure

Adaptee: draw.framework.FigureChangeListener

Request():release, invalidate

Specificrequest():figureRemoved, figureInvalidated, figureChanged

2(BL)

Target: draw.standard.AbstractHandle

Adapter: draw.figures.RadiusHandle

Adaptee: draw.figures.RoundRectangleFigure

Request: invokeStart, invokeStep, locate

Specificrequest():getArc, displayBox

3(BL)

Target: draw.standard.AbstractFigure

Adapter: draw.figures.TextFigure

Adaptee: draw.standard.OffsetLocator

Request: moveBy

Specificrequest():moveBy

4(BL)

Target: draw.framework.Tool

Adapter: draw.standard.AbstractTool

Adaptee: draw.framework.DrawingView

Request: activate, deactivate

Specificrequest():clearSelection, setCursor(Cursor)

5(BL)

Target: draw.framework.ConnectionFigure

Adapter: draw.figures.LineConnection

Adaptee: draw.framework.Connector

Request: updateConnection

Specificrequest():findStart(ConnectionFigure), findEnd(ConnectionFigure)

6(BL)

Target: draw.framework.DrawingEditor

Adapter: draw.applet.DrawApplet

Adaptee: draw.standard.ToolButton

Request: toolDone

Specificrequest():name, tool

7(BL)

Target: draw.framework.DrawingEditor

Adapter: draw.application.DrawApplication

Adaptee: draw.standard.ToolButton

Request: toolDone

Specificrequest():name, tool

8(BL)

Target: draw.framework.DrawingView

Adapter: draw.standard.StandardDrawingView

Adaptee: draw.framework.Drawing

Request: setDrawing, drawDrawing

Specificrequest():draw, removeDrawingChangeListener, addDrawingChangeListener

9(BL)

Target: draw.framework.DrawingView

Adapter: draw.standard.StandardDrawingView

Adaptee: draw.framework.DrawingEditor

Request: tool

Specificrequest():tool

10(BL)

Target: draw.standard.AbstractHandle

Adapter: draw.contrib.PolygonHandle

Adaptee: draw.framework.Locator

Request: locate()

Specificrequest():locate(Figure)

11(BL)

Target: draw.standard.AbstractHandle

Adapter: draw.standard.LocatorHandle

Adaptee: draw.framework.Locator

Request: locate

Specificrequest():locate(Figure)

12(BL)

Target: PaletteButton

Adapter: draw.standard.ToolButton

Adaptee: draw.util.PaletteIcon

Request: paintNormal, paintPressed, paintSelected

Specificrequest():normal, pressed, selected

13(BL)

Target:DrawingView

Adapter: draw.standard.StandardDrawingView

Adaptee: draw.framework.Painter

Request: paint(Graphics)

Specificrequest():draw(Graphics, DrawingView)

14(BL)

Target:FigureEnumeration

Adapter: draw.standard.ReverseFigureEnumerator

Adaptee: draw.util.ReverseVectorEnumerator

Request(): nextfigure

Specificrequest():nextelement

15(BL)

Target:AbstractTool

Adapter: draw.Contrib.PolygonTool

Adaptee: draw.Contrib.PolygonFigure

Request: deactivate, mouseDown, mouseMove

Specificrequest():smoothPoints, pointCount(),addPoint(x, y);

16(BL)

Target: AbstractTool

Adapter: draw.Standard.ConnectionTool

Adaptee: draw.Standard.ConnectionFigure

Request: mouseDown, mouseMove, mouseUp

Specificrequest(): startPoint, endpoint, connectStart, connectEnd

17(BL)

Target: AbstractTool

Adapter: draw.Standard.CreationTool

Adaptee: .draw.Framework.Figure

Request: mouseDown, mouseMove, mouseUp

Specificrequest(): displayBox, isEmpty

18(BL)

Target: AbstractTool

Adapter: draw.Standard.HandleTracker

Adaptee: draw.Framework.Handle

Request: mouseDown, mouseMove, mouseUp

Specificrequest(): invokeStart, invokeEnd

19(BL)

Target: AbstractFigure

Adapter: draw.figures.AttributeFigure

Adaptee: draw.figures.FigureAttributes

Request: setAttribute

Specificrequest(): set

Singleton

1(BL)

Singleton: draw.util.Clipboard

uniqueInstance: static Clipboard fgClipboard

2(BL)

Singleton: draw.util.Iconkit

uniqueInstance: static Iconkit fgIconkit

Observer

1(BL)

Subject: draw.framework.Figure

ConcreteSubject: draw.figures.EllipseFigure...

Observer: draw.framework.FigureChangeListener

ConcreteObserver: draw.figures.GroupFigure.....

2(BL)

Subject: draw.framework.Drawing

ConcreteSubject: draw.standard.StandardDrawing

Observer: draw.framework.DrawingChangeListener

ConcreteObserver: draw.standard.StandardDrawingView

Prototype

1(BL)

Client: draw.standard.ConnectionHandle

Prototype: draw.framework.ConnectionFigure

Concreteprototype: draw.figures.LineConnection

2(BL)

Client: draw.standard.CreationTool

Prototype: draw.framework.Figure

Concreteprototype: draw.figures.EllipseFigure| ImageFigure| PolygonFigure

Command

1(BL)

Command: draw.util.Command

ConcreteCommand: draw.figures.GroupCommand

Receiver: draw.framework.DrawingView

Execute: execute

Action:selectionZOrdered, drawing, clearSelection, addToSelection(Figure), checkDamage

2(BL)

Command: draw.util.Command

ConcreteCommand: draw.figures.InsertImageCommand

Receiver: draw.framework.DrawingView

Execute:execute

Action:lastClick, add(Figure), clearSelection, addToSelection(Figure), checkDamage

3(BL)

Command: : draw.util.Command

ConcreteCommand: draw.figures.UngroupCommand

Receiver: draw.framework.DrawingView

Execute:execute, isExecutable,

Action:selectionElements, clearSelection, drawing, addToSelection(Figure),

4(BL)

Command: : draw.util.Command

ConcreteCommand: draw.standard.AlignCommand

Receiver: draw.framework.DrawingView

Execute: execute, isExecutable

Action:selectionElements, checkDamage

5(BL)

Command: draw.util.Command

ConcreteCommand: draw.standard.BringToFrontCommand

Receiver: draw.framework.DrawingView

Execute: execute, isExecutable

Action:selectionZOrdered, drawing, checkDamage

6(BL)

Command: draw.util.Command

ConcreteCommand: draw.standard.ChangeAttributeCommand

Receiver: draw.framework.DrawingView

Execute: execute, isExecutable
Action:selectionElements, checkDamage

7(BL)

Command: draw.util.Command
ConcreteCommand: draw.standard.SendToBackCommand
Receiver: draw.framework.DrawingView
Execute: execute, isExecutable
Action:selectionZOrdered, drawing, checkDamage

8(BL)

Command: draw.util.Command
ConcreteCommand: draw.standard.ToggleGridCommand
Receiver: draw.framework.DrawingView
Execute: execute
Action:getConstrainer, setConstrainer(PointConstrainer)

Composite

1(BL)

Component: draw.framework.Figure
Composite: draw.standard.CompositeFigure
Add(Component): add(Figure)
Remove(Component): remove(Figure)
Operation():draw

Decorator

1(BL)

Component: draw.framework.Locator
Decorator: draw.standard.OffsetLocator
Operation():locate(Figure)

2(BL)

Component: draw.framework.Figure
Decorator: draw.standard.DecoratorFigure
Operation():displayBox, basicDisplayBox, draw, handles

3(BL)

Component: draw.framework.Tool
Decorator: draw.standard.SelectionTool
Operation():mouseDown, mouseDrag, mouseUp

Template Method

1(BL)

AbstractClass: draw.standard.AbstractFigure
TemplateMethod: moveBy, displayBox(Point, Point), size, containsPoint, invalidate, center
PrimitiveOperation():basicMoveBy, basicDisplayBox, displayBox()

2(BL)

AbstractClass: draw.standard.AbstractHandle
TemplateMethod: displayBox
PrimitiveOperation():locate

3(BL)

AbstractClass: draw.standard.AbstractHandle

TemplateMethod: displayBox

PrimitiveOperation():locate

4(BL)

AbstractClass:draw.standard.ChangeConnectionHandle

TemplateMethod: source, invokeStart, invokeStep, invokeEnd

PrimitiveOperation():target, disconnect, connect, setPoint

5(BL)

AbstractClass: draw.util.PaletteButton

TemplateMethod: paint

PrimitiveOperation():paintBackground, paintPressed, paintSelected, paintNormal

Factory Method

1(BL)

Creator:draw.framework.DrawingView

Factorymethod: selectionElements, getFigureSelection

Concretecreator: draw.standard.StandardDrawingView

2(BL)

Product: draw.framework.Connector

Concreteproduct: CH.ifa.draw.standard.ChopBoxConnector

Creator: draw.framework.Figure

Factorymethod: figures, decompose, connectorAt

Concretecreator: draw.standard.AbstractFigure

3(BL)

Product: draw.framework.Handle

Concreteproduct:draw.standard.EastHandle

Creator: draw.framework.Figure

Factorymethod: figures, decompose, connectorAt

Concretecreator: draw.figures.EllipseFigure

State/Strategy

1(BL)

Context: .draw.standard.AbstractFigure

State/Strategy: draw.framework.FigureChangeListener

2(BL)

Context: draw.standard.ChangeConnectionHandle

State/Strategy: draw.framework.Figure

3(BL)

Context: draw.figures.GroupCommand| InsertImageCommand|...

State/Strategy: draw.framework.DrawingView

4(BL)

Context: draw.applet.DrawApplet

State/Strategy: draw.framework.Tool

5(BL)

Context: draw.standard.AbstractTool

State/Strategy: draw.framework.DrawingView

6(BL)

Context: draw.standard.ChangeConnectionHandle

State/Strategy: draw.framework.ConnectionFigure

7(BL)

Context: draw.samples.javadraw.URLTool

State/Strategy: draw.framework.Figure

8(BL)

Context: draw.standard.AbstractConnector

State/Strategy: draw.framework.Figure

9(BL)

Context: draw.figures.LineConnection

State/Strategy: draw.framework.Connector

10(BL)

Context: draw.util.CommandButton

State/Strategy: draw.util.Command

11(BL)

Context: draw.standard.SelectionTool

State/Strategy: draw.framework.Tool

12(BL)

Context: draw.util.PaletteButton

State/Strategy: draw.util.PaletteListener

13(BL)

Context: draw.standard.StandardDrawingView

State/Strategy: draw.framework.Drawing

14(BL)

Context: draw.figures.LineConnection

State/Strategy: draw.framework.Connector

15(BL)

Context: draw.standard.StandardDrawingView

State/Strategy: draw.framework.Drawing

16(BL)

Context: draw.standard.StandardDrawingView

State/Strategy: draw.framework.DrawingEditor

17(BL)

Context: draw.contrib.PolygonHandle

State/Strategy: draw.framework.Locator

18(BL)

Context: draw.contrib.PolygonHandle

State/Strategy: draw.framework.Locator

19(BL)

Context: draw.standard.ConnectionTool

State/Strategy: draw.framework.ConnectionFigure

20(BL)

Context: draw.samples.javadraw.Animator

State/Strategy: draw.framework.DrawingView

21(FN)

Context: draw.framework.Connector.java

State/Strategy: draw.standard.ChangeConnectionHandle

22(FN)

Context: draw.framework.Connector.java

State/Strategy: draw.standard.DecoratorFigure

Bridge

1(BL)

Abstraction: draw.applet.DrawApplet

Implementor: draw.standard.ToolButton

2(BL)

Abstraction : draw.applet.DrawApplet

Implementor: draw.framework.Drawing

3(BL)

Abstraction : draw.applet.DrawApplet

Implementor: draw.framework.Tool

4(BL)

Abstraction : draw.applet.DrawApplet

Implementor: draw.standard.StandardDrawingView

5(BL)

Abstraction : draw.contrib.PolygonHandle

Implementor: draw.framework.Locator

6(BL)

Abstraction : draw.Contrib.PolygonTool

Implementor: draw.Contrib.PolygonFigure

7(BL)

Abstraction : draw.figures.AttributeFigure

Implementor: draw.figures.FigureAttributes

8(BL)

Abstraction : draw.figures.GroupCommand

Implementor: draw.framework.DrawingView

9(BL)

Abstraction :InsertImageCommand

Implementor: draw.framework.DrawingView

10(BL)

Abstraction : TextFigure

Implementor: Figure

11(BL)

Abstraction :UngroupCommand

Implementor: draw.framework.DrawingView

12(BL)

Abstraction : AbstractFigure

Implementor: FigureChangeListener

13(BL)

Abstraction :AlignCommand

Implementor: draw.framework.DrawingView

14(BL)

Abstraction : BringToFrontCommand

Implementor: draw.framework.DrawingView

15(BL)

Abstraction : ChangeAttributeCommand

Implementor: draw.framework.DrawingView

16(BL)

Abstraction : ChangeConnectionHandle

Implementor: draw.framework.Figure

17(BL)

Abstraction : ConnectionHandle

Implementor: draw.framework.Figure

18(BL)

Abstraction : ConnectionHandle

Implementor: draw.framework.Figure

19(BL)

Abstraction :ConnectionTool

Implementor: Connector

20(BL)

Abstraction : CreationTool

Implementor: draw.framework.Figure

21(BL)

Abstraction : DecoratorFigure

Implementor: draw.framework.Figure

22(BL)

Abstraction : FigureTransferCommand

Implementor: draw.framework.DrawingView

23(BL)

Abstraction : HandleTracker

Implementor: Handle

24(BL)

Abstraction : LocatorConnector

Implementor: Locator

25(BL)

Abstraction : SendToBackCommand

Implementor: DrawingView

26(BL)

Abstraction : ToggleGridCommand

Implementor: DrawingView

27(BL)

Abstraction : CommandButton

Implementor: Command

Builder

1(BL)

Director: draw.framework.Connector.java

Builder: draw.figures.LineConnection.java

2(BL)

Director: draw.standard.ConnectionTool.java

Builder: draw.framework.Connector.java

Interpreter

1(BL)

Non-Terminal expression: draw.standard.StandardDrawing.java

Abstract Expression: Drawing

2(BL)

Non-Terminal expression: draw.standard.StandardDrawing.java

Abstract Expression: Drawing

Memento

1(BL)

Originator: draw.standard.StandardDrawingView.java

Memento: draw.applet.DrawApplet.java

2(BL)

Originator: draw.standard.ToolButton.java

Memento: draw.applet.DrawApplet.java

BL: Baseline as indicated in our paper

FN: False Negative