

The Visual Library API



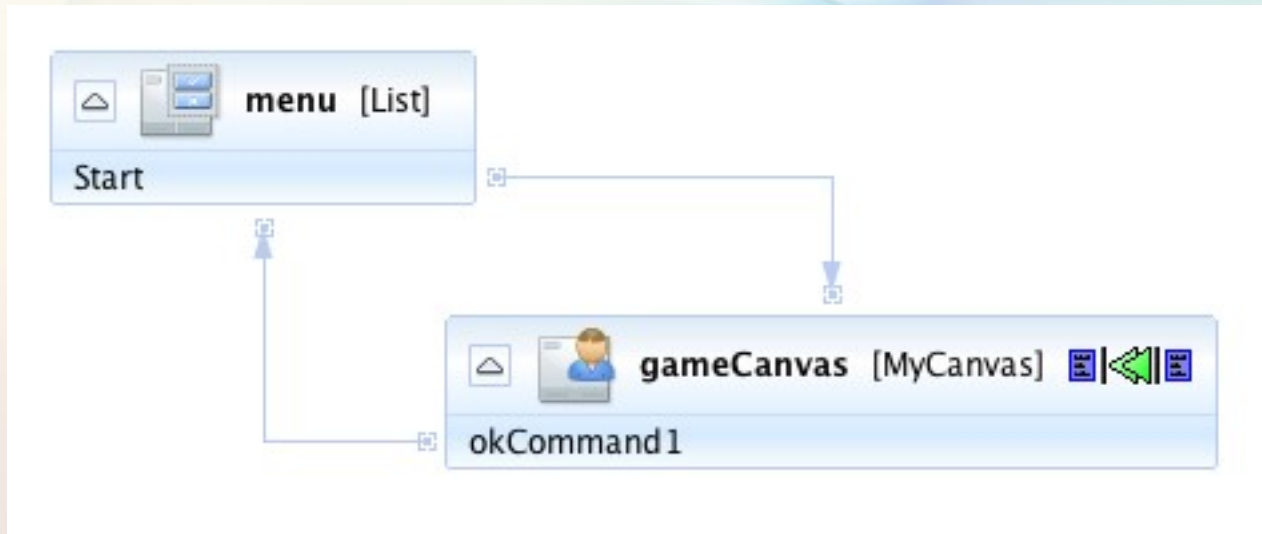
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What is the Visual Library?

Generic Visualization Library

Especially useful for displaying Graphs

Widgets as Graphic primitives



What is the Visual Library?

Can be used in any Swing Application

Only one dependency. Lookup (util)

Documentation & Demo Projects:

<http://graph.netbeans.org/documentation.htm>

<http://graph.netbeans.org/examples.html>

Used in NetBeans & many independent applications

Used in many Applications

Inside NetBeans (Visual Mobile Designer)

Jarvis (Jasperreports Visual Designer)

MindMap

GeeWhiz (Prolog Editor & Tutorial)

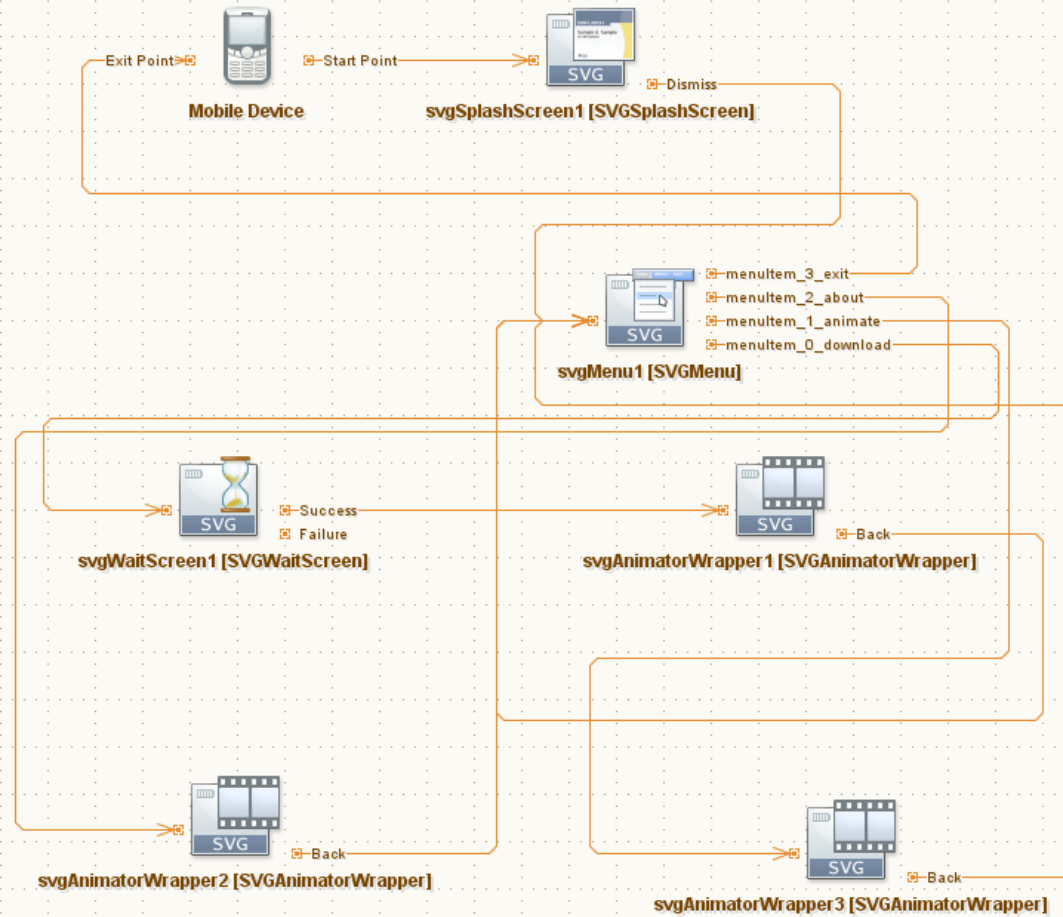
ChiplInspector (Genome Browser)

InstantJChem (Form Designer)

BlueMarine (Photo Editor)

VMD

Flow Designer: MIDP-2.0



Instant JChem

The screenshot displays the Instant JChem 2.3.1 interface. The main window shows a table of query results with columns for ID, mass, logP, and donor count. A 'Chemical Terms Filter' dialog box is open, showing a list of chemical terms and their definitions. The 'Structure' panel displays the chemical structure of 1-L-MYO-INOSITOL-1-P. The 'Query As Text' panel shows the current query: `(Structure Substructure "C1CCCCC1" ChemTermFilter="(mass() <= 500) + (logP() <= 5) + (donor Count() <= 5) + (acceptor Count() <= 10) + (acceptor(index, [pH]) <= 10) + (acceptor(molAtom, [pH]) <= 10) + (acceptorCount([molecule], [pH]) <= 10) + (acceptorSiteCount([molecule], [pH]) <= 10))"`.

ID	mass	logP	donor count
2	1,012	290.44	
3	1,062	288.42	
4	1,131	384.64	
5	1,180	290.44	
6	1,246	408.57	
7	1,247	406.56	
8	1,248	408.57	
9	1,249	386.65	
10	1,370	180.16	
11	1,406	386.65	1

Chemical Terms Filter

Chemical terms expression: Favourites...

(mass() <= 500) + (logP() <= 5) + (donorCount() <= 5) + (acceptorCount([molecule], [pH]) <= 10) + (acceptorSiteCount([molecule], [pH]) <= 10) + (acceptor(molAtom, [pH]) <= 10) + (acceptor(index, [pH]) <= 10)

Calculates atomic acceptor multiplicity

Parameters

- index: atom index
- pH: the major microspecies pH (takes the input molecule itself if omitted) (optional)

Returns

the atomic acceptor multiplicity

1-L-MYO-INOSITOL-1-P

DB name: BioCyc

Formula: C6H13O9P

Pubchem demo: 68 out of 1,000 rows.

Jarvis

The screenshot displays the NetBeans IDE environment for developing a JasperReports report. The main design area shows a report template with the following components:

- Page Header:** Includes the 'BiblioSphere Pathway Edition' logo and a 'Ranking Report' title. A 'new Date()' field is visible on the right.
- Chart:** A stacked area chart with a Y-axis ranging from 0 to 3 and an X-axis with categories from '1999-1' to '1999-7'. The chart uses green, purple, and red colors.
- Page Footer:** Contains two instances of the text 'Copyright © Genomatix Software GmbH 1998-2005 - All rights reserved.http:' followed by a page number field containing the expression $\$V\{PAGE_NUMBER\}$.

The interface also features a **Navigator** on the left showing the project structure for 'JavaApplication7', a **Palette** on the right with various chart types (Area, Bar, CandleStick, Line, Pie, StackedBar, XY), and a **Properties** window for the selected 'StaticText' component.

StaticText - Properties		
Generic		
X	188	...
Y	12	...
Width	159	...
Height	26	...
Forecolor		...
PrintWhenGroupChanges	null	...
PrintWhenExpression	null	...
Style	null	...
StretchType	Default	...
PositionType	Default	...
Mode	Default	...
IsRemoveLineWhenBlank	<input checked="" type="checkbox"/>	...

How does it work?

Similar to Swing: Components organized in a tree

Widgets = Graphics primitive (like JComponent)

Scene (Root element)

ObjectScene

Graph Scene

GraphPinScene

LayerWidget

LabelWidget

ImageWidget

...

Demo...

How does it work?

Layouts:

AbsoluteLayout, FlowLayout, CardLayout,
OverlayLayout

Demo...

Actions:

MoveAction, HoverAction, ZoomAction,
PanAction...

Every Widget has a WidgetAction.Chain to
receive Events and forward them to the
matching Action

```
widget.getActions().addAction(ActionFactory.c  
reateMoveAction());
```

Demo...

Custom Behaviour - Providers

Use Providers to create Custom Behaviour:

```
ActionFactory.createXXXAction(new MyXXXProvider ());
```

Example:

```
private static class MyHoverProvider implements HoverProvider {  
  
    public void widgetHovered(Widget widget) {  
        if (widget != null){  
            widget.setForeground(Color.RED);  
        }  
    }  
}
```

Demo...

Create your own Widgets

```
public class IconNodeWidget extends Widget {  
  
    public IconNodeWidget(Scene scene, String icon, String label)  
    {  
        super(scene);  
        setOpaque(true);  
  
        setLayout(LayoutFactory.createVerticalFlowLayout(LayoutFactory.  
SerialAlignment.CENTER, 4)); // use vertical layout  
  
        Image image = Utilities.loadImage(icon);  
        addChild(new ImageWidget(scene, image));  
        addChild (new LabelWidget (scene, label));  
    }  
}
```

Demo...

Create a Visual Database Explorer

DEMO

Learn more

Documentation, Demo Projects 6
Tutorials:

<http://graph.netbeans.org/documentation.htm>

<http://graph.netbeans.org/examples.html>