Eclipse 4.x - Past, Present and Future

Tom Schindl - BestSolution Systemhaus GmbH

Cluj June 2012

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About Tom

✤ CEO BestSolution Systemhaus GmbH

✤ Eclipse Committer

✤ e4

✤ Platform UI

✤ EMF

✤ Projectlead: UFaceKit, Nebula

✤ Member of the Architectural Council

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A bit of history (and future)
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* EclipseCon `08: Announcement of e4-project
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- Summer `12: Juno release train will ship on Eclipse 4.2 SDK
Reason
Reason

- Outdated programming pattern patterns
  - statics & singletons all over
  - inheritance which binds you to context - e.g. ViewPart can only show in ViewStacks, Editors only in editor area
  - listener pattern and even worse an inconsistent one
Reason

- Outdated programming pattern patterns
- statics & singletons all over
- inheritance which binds you to context - e.g. ViewPart can only show in ViewStacks, Editors only in editor area
- listener pattern and even worse an inconsistent one
- Software architecture made us own all the worlds problems
- e.g. you don’t want draggable parts - Platform UI Team has to implement this for you
Eclipse 4.2 Application Platform
Eclipse 4.2 Application Platform

Eclipse 4 Application Platform

OSGi (Equinox)

JRE

EMF
Eclipse 4.2 Application Platform
Eclipse 4.2 Application Platform
Eclipse SDK 3.x vs 4.x

Past - Eclipse 3.x

Present & Future
Eclipse 4.x
Eclipse SDK 3.x vs 4.x

Past - Eclipse 3.x

Present & Future Eclipse 4.x
Eclipse SDK 3.x vs 4.x

Past - Eclipse 3.x

Present & Future

Eclipse 4.x

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Eclipse SDK 3.x vs 4.x

Past - Eclipse 3.x

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Present & Future
Eclipse 4.x
Eclipse SDK 3.x vs 4.x

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Present & Future Eclipse 4.x
Eclipse SDK 3.x vs 4.x

Platform 3.x
- jface
- core.resources
- ...
- ui.workbench 3.x

Platform 4.x
- jface
- core.resources
- ...
- ui.workbench 4.x
- Eclipse 4 Application Platform

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The programming model
The Past
public class MyPart extends ViewPart {
  @Override
  void createPartControl(Composite parent) {
    getSite().getWorkbenchWindow().getSelectionService()....
  }

  void selChanged(Object value) {
  }

  @Override
  void dispose() {
  }

  @Override
  void setFocus() {
  }
}
public class MyPart extends ViewPart {
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}
public class MyPart {

    void createPartControl(Composite parent) {
    }

    void selChanged(Object value) {
    }

    void dispose() {
    }

    void setFocus() {
    }
}
public class MyPart {
  @PostConstruct
  void createPartControl(Composite parent) {
  }
  
  @Inject
  void selChanged(@Named("selection") Object value) {
  }
  
  @PreDestroy
  void dispose() {
  }
  
  @Focus
  void setFocus() {
  }
}
The Future
public class MyPart {
  @PostConstruct
  void createPartControl(Composite parent, ESelection service) {
  }
  ...
  }
  @Inject
  void selChanged(@Named("selection") Object value) {
  }
  ...
  }
  @PreDestroy
  void dispose() {
  }
  ...
  }
  @Focus
  void setFocus() {
  }
  ...
}
function MyPart() {

    this.createPartControl = function(parent, selectionService) {
    }

    }

    this.selChanged = function(value) {
    }

    }

    this.dispose = function() {
    }

    }

    this.setFocus = function() {
    }

    }

}
The application model
The Past
The past
The past

Java-Model
  WorkbenchWindowAdvisor
  ActionbarAdvisor
  WorkbenchAdvisor

Blackhole
Eclipse
Platform
The past

Blackhole
Eclipse
Platform

Java-Model
WorkbenchWindowAdvisor
ActionBarAdvisor
WorkbenchAdvisor

XML
plugin.xml (fixed)
The past

Blackhole
Eclipse
Platform

XML
plugin.xml (fixed)
The past

Blackhole
Eclipse
Platform

XML
plugin.xml (fixed)

Java-Model
*Descriptor (READONLY)
*Registry (READONLY)
*Part

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The Present
The present
public class ClosePart {
    @Execute
    public void execute(EModelService s, MPerspective p) {
        MPartStack stack = (MPartStack) s.find("right", p);
        stack.getChildren().remove(0);
    }
}

public class ChangeTitlePart {
    @Execute
    public void execute(EModelService s, MPerspective p) {
        MPartStack stack = (MPartStack) s.find("right", p);
        ((MPart)stack.getChildren().get(0)).setLabel("Hello");
    }
}
The present

* Request to NOT autocollapse Stackfolders when last ViewPart is closed

213,645 & 355,750

VS

355,763
The present
The present

| 213,645 & 355,750 | 355,763 |
The present

<table>
<thead>
<tr>
<th>Classes</th>
<th>213,645 &amp; 355,750</th>
<th>355,763</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7</td>
<td>2</td>
</tr>
</tbody>
</table>
The present

<table>
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</tr>
</thead>
<tbody>
<tr>
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<td>2</td>
</tr>
<tr>
<td>LoC</td>
<td>~130</td>
<td>~5</td>
</tr>
</tbody>
</table>
# The present

<table>
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<td>2</td>
</tr>
<tr>
<td>LoC</td>
<td>~130</td>
<td>~5</td>
</tr>
<tr>
<td>Time</td>
<td>? + 3-4 days</td>
<td>5 minutes</td>
</tr>
</tbody>
</table>

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import org.eclipse.e4.ui.model.application.ui.basic.MWindow;
import org.eclipse.e4.ui.model.application.ui.menu.MMenuElement;
import org.eclipse.e4.ui.model.application.ui.menu.MToolBar;
import org.eclipse.e4.ui.workbench.IPresentationEngine;
import org.eclipse.e4.ui.workbench.UIEvents;
import org.eclipse.e4.ui.workbench.modeling.EModelService;
import org.eclipse.e4.ui.workbench.renderers.swt.SashLayout;

// Determine the elements that should *not* ever be auto-destroyed
if (container instanceof MApplication || container instanceof MPerspectiveStack
    || container instanceof MMenuElement || container instanceof MTrimBar
    || container instanceof MToolBar || container instanceof MArea
    || container.getTags().contains(IPresentationEngine.NO_AUTO_COLLAPSE))
{
    return;
}

if (!container.isToBeRendered())
    container.setToBeRendered(true);
else {
    // Never hide the container marked as no_close
    if (container.getTags().contains(IPresentationEngine.NO_AUTO_COLLAPSE)) {
        return;
    }
}

int visCount = modelService.countRenderableChildren(container);

// Remove stacks with no visible children from the display (but not the

public static final String NO_CLOSE = "NoClose"; //$NON-NLS-1$

/**
 * Don't remove the element from the display even if it has no displayable children
 */
public static final String NO_AUTO_COLLAPSE = "NoAutoCollapse"; //$NON-NLS-1$

/**
 * When applied as a tag to an MUIElement inhibits moving the element (ie. through DnD...
Demo
LiveEditor
The Future
The future

8,009
The future
The future
Demo
SplitMe
The future

We will be able to solve problems unsolveable in 3.x (in a reasonable amout of time)
The future

will be able to solve problems unsolveable in 3.x (in a reasonable amount of time)
The future

You will be able to solve problems unsolveable in 3.x (in a reasonable amount of time)
Cool stuff
The cool stuff
The future?

+ Translations

MMenu

Rendering Engine

SWT-Menu

TranslationService

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The future?

• Translations

MMenu
label: %menu.file

Rendering Engine

SWT-Menu
text: File

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The future?

* Translations

** MMenu
  - label: %menu.file

** Rendering Engine

** SWT-Menu
  - text: File

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Montag, 18. Juni 12
Demo

Translate
e4 & CDO
Resources

✔ My blog:  http://tomsondev.bestsolution.at

✔ e4-Wiki:  http://wiki.eclipse.org/e4

✔ e4-newsgroup:  eclipse.e4

✔ e4-mailinglist:  e4-dev@eclipse.org

✔ twitter:  @tomsontom