Scaling Large Eclipse Applications Progressively

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Agenda

- Problem Description
- What is already in Eclipse
- Progressive Disclosure using Activities
- Other Scalability Features in 2.1 and 3.0
The Scalability Problem in Eclipse: Users

- Some large applications ship over 300 preference pages and 150 views
- Confusing for new user
- Needs to be powerful for standard user
- Most users only use portions of the functionality regularly
- Needs to be configurable at the product level
The Scalability Problem in Eclipse: Developers

- Needs to be configurable at the product rather than plug-in level
- Size of the workbench is very large on large apps
- Still need functionality for plug-in prerequisites but the user needs less clutter
What Eclipse Provided in 2.1

- Action Sets
  - Refine searches
  - Filter visible items

- Categories
  - Allows for better grouping
  - Keeps the initial list small

- Still not enough for very large applications
New in 3.0: Rich Client Platform

- Eclipse itself is broken into smaller pieces
- Dynamic loading of plug-ins allows for gradual additions of functionality
- Large Applications are still not reduced in size enough by this due to plug-in dependencies
New in 3.0: Progressive Disclosure

- Products can define and group contributions into activities
- Dynamic plug-ins can load and unload plug-ins no longer in use
- Functionality is filtered until it is discovered
- Discovery is done via trigger points
Progressive Disclosure: Filtering Functionality

- Want the user to get the right choice quickly
- Large applications require too much digging
- Start with initial choices based on user input
- Expand choices as trigger points are hit
Progressive Disclosure: Filtered Preferences
Progressive Disclosure: Unfiltered Preferences
Progressive Disclosure: Filtering Functionality

- Currently filter
  - New Wizards
  - Import Wizards
  - Export Wizards
  - Show Views list
  - Open Perspective list
  - Toolbar contributions
  - Menu contributions
  - Perspective pages
  - Property pages
  - Editors
Progressive Disclosure: Trigger Points

- User will choose initial functionality (potentially based on welcome page)

- Creating or loading projects that are tied to an activity enables the activity

- Currently trigger points are:
  - New wizards
  - Import wizards
  - Loading a project with a nature
Progressive Disclosure: Trigger Points

plugin.xml Editors Before and After Enabling the PDE Activity
Defining Activities using Plug-ins

- Use the org.eclipse.ui.activities extension point

- Pattern bindings - the association of regular expressions to activities. Plug-in id + local id are both used in most supplied functionality.

- Can define activities and categories of activities at the product/system level. Plug-ins do not force the decision.

- Public API available for other systems to participate in filtering
Example Pattern Bindings

Java Development

org.eclipse.jdt.ui.*

org.eclipse.jdt.debug.ui*

Plug-in Development

org.eclipse.pde.ui.*

Bindings of Patterns to Activities
What we are not doing

- Not going to try and define all activities at the plug-in level
- Not disabling functionality
- Not preventing use of the code by other plug-ins
- This is just a filtering feature!
Other Features That Address Scalability

- Contexts
- New Look
- Background Jobs
- Definition of fonts and colors through extension points
Reducing the Clutter: Contexts

- Contexts solve a different problem
- Contexts are a mechanism for adding more dynamic functionality
- Debug is a good example – certain commands only interesting while debugging
- Not necessarily related to any of the activities filtering
Reducing the Clutter: New Look

- New Look enables toolbars on current focus view
- Tries to reduce the busy look of the workbench
- Want to draw users attention to the current task
Moving to the Background

- Job framework added for 3.0
- Does the scheduling and thread management for the whole workbench
- Locking mechanism allows for finer grained blocking – do not need to lock entire workbench for just one resource
- Support mostly at the Core level
- See Jean-Michel Lemieux’s talk for more detail
Coming in 3.0: What’s there now

- Filtering of functionality
- Workbench trigger points
- API for adding activity support to new systems
- Filtering of commands using contexts
- Extension points for colors and fonts
Coming in 3.0: What is coming

- Activity based initial user experience
- More fine grained support for job status in views
- New look
- Most of this should be ready for M7
Demo