e4 Project 0.9 Release Review

July 30, 2009

Review communication channel: e4-dev@eclipse.org
Highlights

- 0.9 is a technology preview of interesting work happening in the e4 incubator
- This is not a commercial quality release: no API, lightly tested, no maintenance releases planned
- Includes working implementations of some cool new technology:
  - Model-based user interface: highly configurable
  - Highly decoupled service-based programming model
  - Declarative user interface styling
  - JavaScript modularity and tight integration of bundles and UI elements written in JavaScript
  - Flexible new IDE resource model
- Commiter and community diversity:
  - 53 committers, 26 active in past 9 months
  - Organizations: IBM (13), Individuals (3), Innooprant (3), FreeScale, BestSolution, Bedarra, Siemens, Soyatec, Wind River, Architexa (1 each)
  - Geographies: Canada, Germany, Austria, Poland, France
  - Commits: IBM (76%), Soyatec (9%), Individual (7%), FreeScape (5%), Bedarra, BestSolution, Innooprant, Siemens (1% each)
Themes and Plan Items

• Extensibility
  – Declarative definition of user interfaces
  – Model-based workbench
  – Skinnable UI
  – Integration of scripting languages
  – Compatibility layer

• Rich Internet Apps
  – Advanced animation API in SWT
  – SWT in a Browser

• Ease of Use
  – Flexible resources

Themes and Plan Items

• Deferred plan items:
  – Advanced animation API in SWT
New and Noteworthy

E4 Platform
- Eclipse 3.x compatibility
- Application model and schema
- Photo demo application
- Contacts demo application
- Dependency injection
- Annotations for injection
- Hierarchical context service binding system
- Context lookup strategies
- Toolkit Model for model-based widgets
- Scripting of widget models with JavaScript
- Modeled UI elements embedded in dialogs and wizards
- e4 model viewer
- JavaScript Modularity
- JavaScript-based site manifest editor
- Integration of web UI components in the workbench
- E4 support on Rich Ajax Platform (RAP)

Declarative Styling
- Styling SWT widgets with CSS
- New tab folder look
- Declarative styling with gradients
- Margins for spacing between widgets
- Extensive styling support for CTabFolder
- Modeled UI informs of active state
- Styling support for CTabItem
- Setting button and label alignment with CSS

SWT Browser Edition
- ActionScript development environment
- Incremental Java to ActionScript compiler
- Java to ActionScript execution environment
- SWT Browser Edition examples
- ActionScript theme support
New and Noteworthy

**XWT**
- Dynamic event handling in XWT
- Custom widget support
- Ability to specify and customize style
- JFace data binding support
- Data binding path expression support
- Debug tracking
- Command support for MenuItem and Button
- Internationalization
- Multiple data binding models
- Widget binding
- Advanced UI mediator wizard

**Resources**
- Editable linked resource locations
- Project linked resource variables
- Resource groups
- Resource filters
- Drag and drop generation of linked resources
- Linked resource editor
- Create filters during resource creation
Non-Code Aspects

- The 0.9 release contains no formal documentation, but there is extensive documentation on the e4 wiki
- A webcast series on the 0.9 release is planned to help spread the word about e4 technology
- Community is very active
  - Mailing lists and newsgroups have steady activity
    - E4 mailing list: e4-dev@eclipse.org
  - Lots of e4 blog activity:
    - http://www.planeteclipse.org
  - Wiki content is extensive and growing
    - http://wiki.eclipse.org/E4
Non-Code Aspects

• Internationalization
  – The e4 0.9 release has not undergone Internationalization testing

• Localization
  – e4 message strings are not localized

• Accessibility
  – e4 has not been tested for accessibility
Non-Code Aspects

• Articles, examples, and tutorials
  – e4 whitepaper provides overview of e4 technology:
    • http://eclipse.org/e4/resources/e4-whitepaper.php
  – e4 presentations/symposia/tutorials at:
    • EclipseCon 2008, 2009
    • Eclipse Summit Europe 2008
    • Eclipse Application Developer Day 2009
    • Several Eclipse Galileo DemoCamps
  – e4 presentation material available on e4 wiki
  – Two complete e4 example applications: Photo viewer and Contacts application
Platform Quality API

• The e4 0.9 release includes some provisional API, but compatibility with future releases is not planned
• Platform quality API is planned for the next e4 release
Tool Usability

• Mostly relying on Eclipse platform tooling support and EMF tools for models
• Some e4-specific tooling:
  – ActionScript/JavaScript debugging tools
  – XWT graphical design editor
  – Toolkit Model editors
  – e4 model editor
Architectural Issues

• Primary runtime is Java SE 5
• Currently provide one monolithic download, but e4 is in fact highly modular: developers can pick and choose pieces they want to use in their applications
End of Life Issues

• As this is the first release of e4, there are no end of life issues
Bugzilla

• Since Oct 30, 2008 (creation of e4 in bugzilla)
  – Over 740 bugs were created or moved to e4 from elsewhere
  – Over 470 were resolved
  – 42 were resolved without changing code
    • invalid, duplicate, worksforme, etc...

• Current state (RC2) is
  – 0 blockers, 1 critical
  – 0 P1, 0 P2
## Bug resolution during 0.9

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Fixed bugs

![Bar chart showing fixed bugs across different versions with categories: Enhancement, Trivial, Minor, normal, major, critical, and blocker.]
Schedule

- Milestones every 6 weeks, 6 cycle duration
  - Feature freeze July 12 (M5)
  - Short end-game (two release candidates)
    - [Link to project plan]
- Tracked schedule
  - All milestones delivered as promised
  - An extra milestone was added (M5) in exchange for removing two release candidates (RC3, RC4)
  - Final release date: July 30, 2009
Process

• The Eclipse project is developed using an open, transparent, and inclusive process
• Teams rely on Bugzilla, mailing lists and newsgroups for input
• Bi-weekly planning calls conducted with all e4 contributors welcome
• Extensive use of e4 wiki for brainstorming, planning, and development notes
Community

- Eclipse team members are active in Bugzilla, newsgroups, and mailing lists
- Blogs started by Eclipse committers are evolving
  - Use blogging infrastructure at Eclipse.org
  - http://www.planeteclipse.org
- Some teams are using the eclipse-dev IRC channel
  - irc.freenode.net#eclipse-dev
  - irc://irc.freenode.net/#eclipse-e4
  - also see: http://wiki.eclipse.org/index.php/IRC
- The Eclipse team participates in code camps, conference presentations, and tutorials, including
  - EclipseCon, JavaOne, JavaWorld, JAOO, Eclipse Summit Europe, Eclipse Forum Europe, JAX, JAX Asia
- The Eclipse team interacts with other open source projects, standards bodies, and other projects on eclipse.org, including
  - OSGi, Apache Ant, JLS, WTP, Apache Harmony, GCJ, GTK
IP Issues

• All significant and third party contributions have been reviewed and approved by Eclipse legal.
• About files and license files are complete and correct.
• Draft project log:
Project Plan for Eclipse 4.0

• Still in planning stage
• Main focus will be on taking incubating technology in e4 0.9 and making it real platform quality:
  – Robust implementation
  – High quality API
  – Backwards compatibility with Eclipse 3.5
  – Documentation