#### **Object Teams 0.7.0 Release Review**

# eclipse

Planned Review Date: July 7, 2010 Communcation Channel: objectteams-dev@eclipse.org Submitted by: Stephan Herrmann

# Introduction

- The Object Teams Project provides tooling for developing highly modular evolvable software using the language OT/J
  - compiler and runtime for OT/J based on the JDT compiler
  - comprehensive IDE for OT/J based on the JDT
  - extension for executing OT/J code within Equinox
- Self application
  - the Object Teams Development Tooling (OTDT) extensively uses OT/Equinox for its implementation



#### Features

- 0.7.0 is going to be the first release of the project
- The main goal towards this release was to migrate the mature code from objectteams.org to eclipse.org
  - all IP issues have been resolved
    - changed implementation where code could not be moved to eclipse
  - code was refactored to new namespace org.eclipse...
  - build and test infrastructure was ported to eclipse servers
- User visible changes since the last release from objectteams.org (1.4.0) are summarized in:
  - http://www.eclipse.org/objectteams/pages/new\_in\_0.7.html



#### Non-Code Aspects

eclipse

- A new structure of wiki content has been created at
  - http://wiki.eclipse.org/Object\_Teams
    - Object Teams Quick-Start
    - Fundamental Concepts and Technology
      - Introduction to OT/J the language
      - Object Teams Development Tooling (OTDT) the IDE
      - **OT/Equinox** the module system
      - Selected Facts regarding OT/J and the OTDT
    - Examples and Method
      - **Examples** examples suitable as a further introduction to Object Teams.
      - Patterns patterns for good design with OT/J
      - Howtos covering both technical issues and design questions
      - **Caveats** list of common pitfalls with explanation and solution
      - Trouble Shooting error messages, causes and solution

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# None-Code Aspects (ctnd)

- User documentation
  - User guide is shipped with the tool
    - Intro & feature list
    - One page for each major activity
    - Language definition included
    - Extension point documentation
  - Examples are shipped as auto-installing projects
  - Some examples are documented in the wiki, too



#### **APIs**

API of these core components are stable

- org.eclipse.objectteams.runtime (contains the OTRE)
- org.eclipse.objectteams.otequinox (extension point)

Other API will be finalized before project graduation



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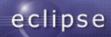
## Architectural Issues

- Already version 1.4.0 from objectteams.org had a good architecture which played well during many years of evolution
- During the migration to eclipse.org the architecture was still improved
  - avoid patched BCEL 4.4.1 but use 5.2 from Orbit
    - decision made after consulting AspectJ team who have their own patched version of BCEL.
  - drop support for JMangler framework (no longer needed)
  - revise decomposition into plug-ins in a few cases



# **Tool Usability**

- The OTDT aims at providing the same usability and convenience for OT/J as the JDT does for Java
  - most existing features of the JDT have been extended to work with OT/J, too
  - new features have been developed specifically for OT/J:
    - views & wizards
    - code assist
- The OTDT doesn't expect the user to know every detail about Object Teams, but aims at teaching the user those bits that might be relevant to her/him.
- Quickfixes exist for migrating old OT/J projects to 0.7.0



#### End-of-Life

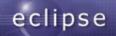
- Due to the change of namespace the OTDT 0.7.0 is incompatible with previous releases from objectteams.org.
- OTDT 0.7.0 supports the same language (OT/J) as previous releases (with some recent clarifications)
- A few plug-ins have **not yet** been migrated to eclipse
  - e.g. a metrics plug-in, IP issues not yet analyzed
- For running OT/J programs two alternative technologies had been in use (as of 1.4.0):
  - JMangler framework (discontinued, no longer needed)
  - Java 5 JPLIS agent (has matured by now)

# Bugzilla

- 26 bugs migrated from previous Trac to Bugzilla
  - https://bugs.eclipse.org/bugs/buglist.cgi?classification=Tools;product=Objectteams; query\_format=advanced;status\_whiteboard\_type=allwordssubstr;status\_whiteboard=trac
  - 8 open bugs remain at previous Trac requiring investigation to close or migrate to Bugzilla
- 61 new bugs filed since project creation
- 58 bugs closed since project creation
  - 4 worksforme
  - 1 duplicate
  - 53 fixed
- 29 bugs currently open (all at P3)
  - 13 enhancement
  - 13 normal
  - 3 minor

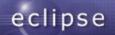
#### Standards

- No standard exists for OT/J the project provides the only implementation for this technology
- OT/J is executed on a standard Java virtual machine
- OT/Equinox runs on the **Equinox framework** using ...
  - only standard OSGi headers in MANIFEST.MF
  - only regular extensions in plugin.xml
  - AdapterHooks as supported by Equinox
- Installing the OTDT (and any OT/Equinox appl.)
  - using only existing p2 mechanisms



# **UI Usability**

- UI closely follows the JDT lead
- localization is technically supported
  - no language packs for other languages exist yet

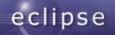


## Schedule

- April 1: "checkin to cvs" from legal team
- Milestones
  - originally planned: for each Helios Milestone / 6 week interval
  - published in line with condensed plan:

| April 25: | Milestone 1 |
|-----------|-------------|
| May 7:    | Milestone 2 |
| May 31:   | Milestone 3 |
| June 11:  | Milestone 4 |

Helios M7 Helios RC2 + 3 days Helios RC4



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# Schedule (discussion & update)

#### Initial plan tentatively mentioned graduation w/ Helios

- overall time until "check in to cvs" (expectedly<sup>©</sup>) longer than expected
  - Sept. '09: proposal sent to EMO
  - Jan. '10: project creation review
  - Apr. '10: "check in to cvs"

- > 6 months
- many short waiting periods, single longest wait was outside Eclipse:
  - waiting for institutional provenance signatures regarding initial contribution
- plan update after "check in to cvs"
  - too little time left to prepare graduation w/ Helios (as initially planned)
  - haven't reviewed our API need to move some classes into "internal"

#### Split maturing into

- Release 0.7.0: now
- Gradutation: approx. 6 months later

# Communities

#### Developers:

- One committer still preparing his initial contribution for IP-analysis:
  - Olaf Otto for OT/JPA
- Users:
  - Community is not large but very qualified
    - high-detail technical discussions in the Forum
    - qualified suggestions in Bugzilla
    - great feedback at DemoCamps etc.
  - Users of the OTDT are adopters of OT/J & OT/Equinox



# Communities (cont'd)

- Actively reaching out
  - Forum, Blog
  - Eclipse Market Place
  - Conferences
    - 4 submissions for EclipseCON'10
    - presentation at GeeCON'10
  - DemoCamps
    - Nov. '09 Berlin
    - Jun. '10 Vienna

involvement in bugzillas throughout all of eclipse



# IP Log

#### IP log submitted using the tool

- http://www.eclipse.org/projects/ip\_log.php?projectid=tools.objectteams
- Initial Contributions fully approved:
  - CQ 3784, CQ 3786, CQ 3793
- Third-party dependencies CQs piggy-back on existing CQs
  - CQ 3805 (BCEL), CQ 3806 (XHTML DTDs)
- Commits after initial contribution by
  - Stephan Herrmann
  - Marco Mosconi
- No contributions from non-committers to this point



## **IP** Issues

- The initial contribution has been reviewed and approved by Eclipse legal.
- Eclipse Software User Agreement using version of April 14, 2010 applied for all delivered features
- About files and license files are complete and correct.



## **Project Plan towards Graduation & beyond**

#### Contribute more components

- OT/JPA as per the project proposal
- metrics plugin
- more tests
- runtime bytecode weaver
  - prototype exists, requires testing & bug fixing
- Growing the community
  - reach out through all channels available
- Service releases every 6 weeks
  - adopt 3.6.1 when it is published
- Graduation roughly at the turn of the year 2010 2011
- Consider joining Indigo

# **Credits and Kudos**

#### Initial Contribution donated by

- Technische Universität Berlin (5 authors):
  - Stephan Herrmann, Christine Hundt, Karsten Meier, Ralf Musick (previously Anklam), Jürgen Widiker
- Fraunhofer FIRST (10 authors):
  - Jan Wloka, Carsten Pfeiffer, Andreas Kaiser, Christine Hering, Gregor Brcan, Jaroslav Svacina, Joachim Hänsel, Markus Witte, Michael Krüger, Sascha Kolewa
- Additional individuals
  - Johannes Gebauer, Dehla Sokenou, Oliver Frank
- Guidance during establishing the project
  - Mentors, EMO, Tools PMC, Eclipse Legal
  - Special thanks to Chris Aniszczyk and Sharon Corbett for excellent feedback with very low latency

