Object Teams 0.7.0 Release Review

Planned Review Date: July 7, 2010
Communication Channel: objectteams-dev@eclipse.org
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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](http://www.eclipse.org/objectteams/pages/new_in_0.7.html)
Non-Code Aspects

- 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
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
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
    - Milestone 1
    - Milestone 2 Helios M7
    - Milestone 3 Helios RC2 + 3 days
    - Milestone 4 Helios RC4
Schedule (discussion & update)

- Initial plan tentatively mentioned graduation w/ Helios
  - overall time until “check in to cvs” (expectedly 😊) longer than expected
    - Sept. '09: proposal sent to EMO
    - Jan. '10: project creation review
    - Apr. '10: “check in to cvs”
  - 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
  - Graduation: 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
  - 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
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