Eclipse UOMo 0.6 Release Review

Planned Review Date: May 30th, 2013
Communication Channel: Newsgroup
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Introduction

UOMo adds Units of Measurement support for IT Systems and Services both to common programming languages like Java and Data Exchange standards, especially UCUM and formats including UnitsML, SensorML, MathML, general XML or JSON.
Features

Language

- Implementing Units of Measurement API
  Strong Unit Typing (Compile time support)
- Financial API based on general Units of Measurement implementation and JSR 354 (future)

The focus of the project is on Java implementations, but other languages both on a JVM or other platforms will be supported as appropriate, desired and/or contributed.
Features (2)

Data

- Coding Standards
  Basic implementation of UCUM System for use in any context

- Markup
  Help to incorporate units into W3C standard MathML, Support OASIS standard Units Markup Language (UnitsML)

- JSON (future, based on standards like JSON-P)
Non-Code Aspects

There is extensive documentation, most of it based on conferences, demo camps, live hacking sessions, etc.

Localization/externalization where unit names or symbols are locale-sensitive is done through standard means, mostly Eclipse Babel. Existing have been updated. Primarily OHF UCUM has been revived and integrated with the general UOMo project. All other bundles are new artifacts. Nothing has been retired, given OHF was already archived before and useful parts were reused appropriately.
APIs

All APIs in this release are Eclipse Quality. They are based on mature, long-established projects and frameworks like ICU4J, Unit-API (its API has been stable and mature for at least 5 years now, too) or took prior 1.x release APIs of Eclipse projects like OHF into the Eclipse 4+ world and Java 6 or beyond.
Architectural Issues

There is a minor overlap with other projects, and "merge debt" from ICU4J, primarily a mismatch in the way, Google and IBM implemented their parts, see https://bugs.eclipse.org/bugs/show_bug.cgi?id=338338

Upcoming changes and improvements like implementing JSR 354 (Java Money API) for Eclipse may add further challenges in future releases.
Tool Usability

Developers frequently encounter the need to model units of measurement, because objects in the real world are subject to these measures. When working with units, developers need to understand the mathematics of units, how to convert between systems, and how to format and parse string representations of units. Most of this work can be consolidated into one or two Java packages, which is a primary aim of this project. This project will help developers create safe, correct software to deal with common problem of modeling units.
End-of-Life

N/A
Bugzilla

- Total Bugzilla items: 38
- Open items: 19
  - Of which enhancements: 6
  - No open bugs higher than “normal”
  - No open bugs P1 or P2
  - Some of the open issues (usually severity “trivial”) are ongoing tasks, rather than bugs or enhancements
Standards

UOMo adds implementation and support of Units of Measurement standards like SI and other relevant systems to the Eclipse ecosystem. Thus standards are in the heart of this project;-)

Other relevant standards to mention are OSGi for reusable modules and bundles common to most Eclipse projects. Where applicable, additional Java standards (JSRs) will be used.
UI Usability

Since UOMo is a library project there are no UI aspects to the actual framework. The only UI to some extent is the feature UI plug-in and examples, but not the main project.
**Schedule**

The first milestone was planned to follow Java 7, between late 2011 and some time in 2012.

Having Grahame Grieve contribute less caused some delay. So did a rather complex IP review.

Thanks to Chris Senior joining as committer in 2012, especially his contribution to the Tycho build was a great step forward. Beside, full Java 7 compatibility of the ICU4J Currency class was only introduced with ICU4J 50.x, a release still not fully supported by OSGi/Eclipse plug-ins, especially when building with Tycho. UOMo Business is part of UOMo but subject to change once JSR 354 progresses further.
Communities

While the team may be smaller compared to other projects, it is very active in newsgroups, blogs and PR activities like demo camps, conference tutorials, coordinating with other Eclipse projects (e.g. the M2M IWG where Units and Sensor Measurements play a vital role, too) and other open source projects mainly Unit-API, the UCUM standards process, OASIS or ICU4J.
**IP Log**

The project leadership verifies that the Eclipse IP policies and procedures have been followed.

Indicate where the project's IP Log can be found

http://dev.eclipse.org/ipzilla/show_bug.cgi?id=4987

Also see

https://bugs.eclipse.org/bugs/show_bug.cgi?id=409307
IP Issues

N/A as there has been no change to this situation since the IP Log was submitted preparing the review.