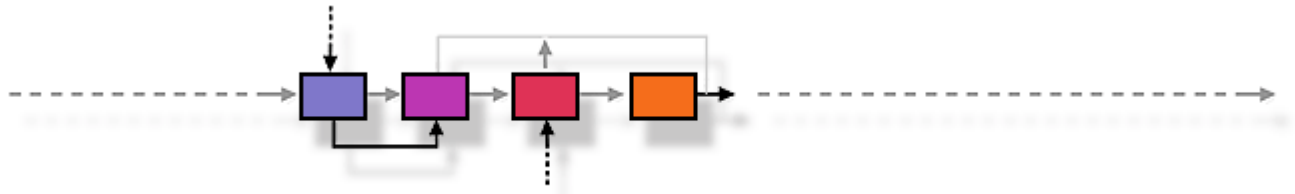




Java
Community
Process



JSR 363 Early Draft Review Spec Lead Report

January 14 2015

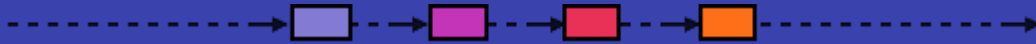
Jean-Marie Dautelle, Werner Keil,
Leonardo Lima

Agenda



- Introduction
- History
- Scope, Features
- Publicity, Collaboration
- Participation
- Issue Tracker
- Questions, discussion, next steps

About this JSR



- A framework supporting robust representation and correct handling of quantities.
 - For example, it may be unclear whether a person's mass is expressed in pounds, kilograms, or stones.
- JSR 363 proposes to establish safe and useful methods for modelling physical quantities.
- Interfaces and abstract classes supporting unit operations including
 - Checking of unit compatibility
 - Expression of measurement in various units
 - Arithmetic operations on units
- Concrete classes implementing standard unit types (base, derived) and unit conversion.

Introduction / Business Case



- There are no specifications or common standards for handling units in Java.
- Java developers who work with physical quantities (such as developers in the scientific, engineering, medical, and manufacturing domains) need to be able to handle measurements of these quantities in their programs. Inadequate models of physical measurements can lead to significant programmatic errors.
- Embedded (ME, SE) is our target platform, standalone releases
- It's a follow-up from JSR 275, with a narrower scope

Introduction / Business Case



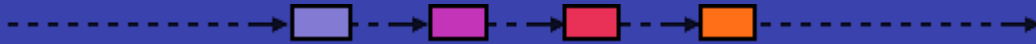
- Platform providers and developers can provide and use a better defined API
 - Example: thermostats can expose APIs with correct Temperature objects instead of *float* and rely on documentation for Celsius or Fahrenheit
- Embedded developers can have less error-prone, more self-documented code

History



- List the significant dates in the history of JSR 363.
 - Submitted: March 11, 2014
 - Creation approved: April 7, 2014
 - Currently first EDR, started December 29, 2014

Technical scope and features



- Namespace: `javax.measure.*`
- Only Interfaces and (Base) Exceptions
 - public interface **Dimension**
 - public interface **Quantity**<Q extends Quantity<Q>>
 - public interface **Unit**<Q extends Quantity<Q>>
- All other packages are **OPTIONAL**
 - `format` (contains Formatters und Parser)
 - `quantity` (contains dimensions like Mass, Length,...)
 - `spi` (Service Provider Interface)

The Expert Group



- The JSR 363 EG has members from every continent except Antarctica (or Australia)
 - V2COM, 3 JUGs, individuals (several of them working at large companies like Airbus, IEM or open-source groups like GeoAPI)
- The EG operate via Mailing lists, hangouts/calls at least every quarter, F2F either at EC meetings or events like JavaOne
- Mailing lists, JIRA are used as collaboration tools to facilitate EG communications

Other deliverables



- Other than Spec, RI, and TCK, we are delivering:
 - Additional documentation
 - <http://unitsofmeasurement.github.io>
 - <https://www.eclipse.org/uomo/documentation.php>
 - Sample code
 - <https://github.com/unitsofmeasurement/uom-demos>
 - Other artifacts
 - Especially SlideShare (look for keywords like “jsr363” or “java” and “iot”)

Publicity



- 1st public announcement at NightHacking (JavaLand)
https://www.youtube.com/watch?v=QmhO4q_SKIY
- NightHacking with JSR 363 (JUG Stuttgart)
https://www.youtube.com/watch?v=yv7Y_0AIQUU
- World IoT Day Zurich
<http://www.meetup.com/IoT-Zurich/events/166408222/>
- Adopt-a-JSR Hangout (Apr 2014)
<https://www.youtube.com/watch?v=mDrbMxgXjwA>
- Eclipse Science WG F2F at EclipseCon France
https://wiki.eclipse.org/Eclipse_WG_Unconference_France_2014#Science_IWG_meeting

Publicity (2)



- Eclipse DemoCamps Luna 2014
https://wiki.eclipse.org/Eclipse_DemoCamps_Luna_2014
- JavaZone 2014
<http://2014.javazone.no/presentation.html?id=42d458c8>
- Hackergarten at JavaOne 2014
https://blogs.oracle.com/javaone/entry/hackergarten_at_javaone_2014
- Eclipse DemoCamps Fall 2014
https://wiki.eclipse.org/Eclipse_DemoCamps_Fall_2014
- JMaghreb 3.0 <http://www.jmaghreb.io/en/schedule?d=3>
- Hackaton @SouJava (Nov 2014)

Collaboration with other community groups



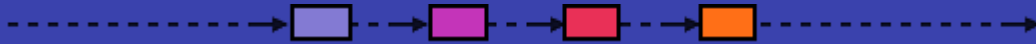
- There is collaboration and exchange in particular with
 - GeoAPI / GeoTools
 - JScience
 - Eclipse (Science WG, UOMo and others, especially current users of either Unit-API 0.6 or JSR 275)
 - OpenJDK mostly via contributors who are also EG Members
 - ICU (Unicode Organization)

Implementations



- Many implementations (apart from the RI) exist:
 - Java SE 8 port:
<https://github.com/unitsofmeasurement/uom-se>
 - Lightweight implementation using Enums:
<https://github.com/unitsofmeasurement/uom-impl-enum>
 - Eclipse UOMo: <http://www.eclipse.org/uomo/>
(subject to CQ for JSR 363)
 - JScience 5: <http://www.jscience.org/> (planned)

Schedule



- The expected schedule to completion of the JSR, with milestones and JSR stages, is:
 - Dec 2014 – January 2015: Early Draft
 - Q1/2015 – Q2/2015 : Early Draft 2 (optional)
 - Q3/2015 – Q4/2015: Public Draft
 - Q1/2016 : Final Draft
 - Q2/2016: Final Release

IP flow



- We will be using the [Standard Spec License](#) for the JSR specification, and a [BSD 3-Clause License](#) for the RI and TCK.
- Code contributions are made from users with valid JSPA standing.
- We don't have a Contributor Agreement nor any legal issues or concerns.

RI and TCK development



- We are developing the RI and TCK collaboratively through <http://unitsofmeasurement.github.io>
 - Committers: 4 EG Members (desruisseaux, keilw, leomrlima, otaviojava)
 - 11 GitHub and 16 java.net users contribute to wider project (SE port, demos, JSON-, QS integration, etc.)
- The RI is available for public download on <https://github.com/unitsofmeasurement/unit-ri> and on public repositories like JCenter or MavenCentral
- The TCK is available for public download on <https://github.com/unitsofmeasurement/unit-tck>
- The source-code repository is at <https://github.com/unitsofmeasurement>

Participation and transparency



- The JSR page on JCP.org:
 - <https://jcp.org/en/jsr/detail?id=363>
- There are two “JSR project websites”:
 - Main project website is <http://unitsofmeasurement.github.io>
 - Java.net site <http://unitsofmeasurement.java.net> is used mainly for downloads or JIRA. Both Git support and CMS are less flexible and modern, which is why we host these on GitHub. It also provides links for other materials like mailing links

Adopt-a-JSR



- We are participating in the Adopt-a-JSR program
- 3 JUGs / their members have so far joined the EG:
 - Morocco JUG
 - SouJava
 - JUG Chennai
- Especially SouJava / Otavio helped a lot also with active contributions to API, RI or the Java SE 8 port:
 - <https://github.com/unitsofmeasurement/unit-api/commits?author=otaviojava>
 - <https://github.com/unitsofmeasurement/uom-se/commits?author=otaviojava>
 - etc.

Mailing lists or forums



- We communicate with the public and they can communicate with us using:
- Public mailing list(s) and/or forum(s)
 - Units-Dev on Google Groups:
<https://groups.google.com/forum/#!forum/units-dev>
 - Units-Users on Google Groups:
<https://groups.google.com/forum/#!forum/units-users>
 - EG only mailing list on java.net, archive fully visible:
<https://java.net/projects/unitsofmeasurement/lists/experts/archive>
- Total number of messages, threads?
 - 91 threads on units-dev, 100+ on units-users
 - The EG list has approx. 50-100 messages per month.

Issue tracker



- Total number of issues?
107
- How many in each state (open, closed, deferred, etc.?)
 - Open 33 (31%)
 - In Progress 8 (7%)
 - Resolved 60 (56%)
 - Closed 6 (6%)
- Some issues are also filed either on GitHub or Mailing lists (especially if participants currently have no Java.net or JIRA account) and adjusted appropriately

Issue tracker



Created vs Resolved Issues Report

Period	Created	Resolved
April 2014	2	0
May 2014	15	2
June 2014	3	1
July 2014	3	1
August 2014	28	17
September 2014	9	14
October 2014	11	6
November 2014	9	11
December 2014	23	12
January 2015	4	2

Document archive



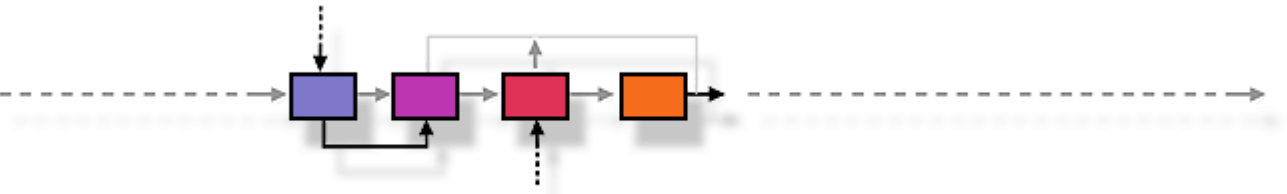
- Our document archive, where meeting minutes and materials are published, is at <https://java.net/projects/unitsofmeasurement/download>
S
- Tther materials are available for download:
 - Milestone (e.g. EDR) of the Spec
 - Snapshot release of the Spec with changes since the last milestone
- Most presentations are made available on sites like SlideShare



Questions, discussion, next steps



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Thank you!

<http://jcp.org/en/jsr/detail?id=363>