Conformity and consistence of software testing terms in different languages

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The Importance of Using the Right Words

Ugur Akinci (http://www.technicalcommunicationcenter.com):

«*Using the right words is so critical in communications in general and technical writing in particular.*

The wrong word can take the conversation to a totally unintended direction, sometimes with humorous and other times with not-so-humorous results.»

ISTQB Glossary

Glossary

Standard Glossary of Terms used in Software Testing

Version 2.4

International Software Testing Qualifications Board

ISTQB

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bottom-up testing: An incremental approach to in
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boundary value: An input value or output value
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minimum or maximum value of a range.

boundary value analysis: A black box test design te
based on boundary values. See also *boundary valu*

boundary value coverage: The percentage of bound
test suite.

boundary value testing: See *boundary value analys*

branch: A basic block that can be selected for exe
which one of two or more alternative program pat
then-else.

3

Standard glossary of terms used in Software Testing

bottom-up testing: An incremental approach to integration testing where the lowest level components are tested first, and then used to facilitate the testing of higher level components. This process is repeated until the component at the top of the hierarchy is tested. See also *integration testing*.

boundary value: An input value or output value which is on the edge of an equivalence partition or at the smallest incremental distance on either side of an edge, for example the minimum or maximum value of a range.

boundary value analysis: A black box test design technique in which test cases are designed based on boundary values. See also *boundary value*.

boundary value coverage: The percentage of boundary values that have been exercised by a test suite.

boundary value testing: See *boundary value analysis*.

branch: A basic block that can be selected for execution based on a program construct in which one of two or more alternative program paths is available, e.g. case, jump, go to, if-then-else.

- The glossary contains 838 entries
- For comparison, "IEEE Standard Glossary of Software Engineering Terminology" (1990) contains approximately 1300 entries

Which glossary is the best one?

- We consider that ISTQB Glossary is the best software testing glossary

- It is created and maintained by many acknowledged specialists

- This glossary in English serves as a basis for software testing glossaries in various other languages

Translations

Language	Version	Date of ISTQB version
English	2.4	4 July 2014
German	2.2	19 October 2012
Russian	2.2	19 October 2012
French	2.1	1 April 2010
Spanish	1.3	31 May 2007
Latvian	- In process 2.4	4 July 2014
Estonian	- ?	
Lithuanian	- ?	

Terms in Latvian

- ISTQB Glossary V2.4 contains **838 terms**
- ISTQB Glossary terms in **AkadTerm** (Latvia)
  - **98** terms with **exact or acceptable translation**
  - **3** terms with too **archaistic IT meaning**
  - **40** terms related to IT domain but **without of a software testing context**
  - **101** terms related to **non-IT domain**
  - **596** terms **not included** at all
- Most of terms has many translations / definitions! (for statistics we took the best one)

Version inconsistence

- English – English (from one version to another)
- English – {German, Russian, French, Spanish}
- English – *Other language*
- *Other language – Other language*

Inconsistances in ISTQB Glossary

component	A minimal **{software}** item that can be tested in isolation.
software	Computer programs, procedures, and possibly associated documentation and data pertaining to the operation of a computer **{system}**.
system	A collection of **{component}**s organized to accomplish a specific function or set of functions.

- Terms in definitions make a loop
- Do we have to translate exactly or not?

New meaning for existing definitions («data flow»)

ISTQB	**An abstract representation of the sequence and possible changes of the state of data objects, where the state of an object is any of: creation, usage, or destruction.**
Translation	**Datu objektu stāvokļu izmaiņu secības abstrakta reprezentācija; objekta stāvoklis var būt viens no: izveidošana, lietošana, iznīcināšana.**
Definitions in AkadTerm	Datu kopums, ko noteiktā secībā no datu avota pārraida datu saņēmējam.
	Secība, kādā datorā datus pārraida, izmanto un pārveido programmas izpildes gaitā.
	Datu pārvietošanās pa datu apstrādes sistēmas aktīvajām sastāvdaļām konkrēta darba veikšanas gaitā.
	1. Datu kopums, ko noteiktā secībā no datu avota pārraida datu saņēmējam.
2. Secība, kādā datorā datus pārraida, izmanto un pārveido programmas izpildes gaitā.
	Datu kopums, ko secīgi pārraida no datu avota datu saņēmējam.

Addition meaning for existing definitions 1

ISTQB	error	A human action that produces an incorrect result.
Definitions in AkadTerm	kļūda	Nesaskaņa starp izskaitļoto, novēroto vai izmērīto vērtību vai stāvokli un patieso, specificēto vai teorētiski pareizo vērtību vai stāvokli.
	kļūda	Pretruna starp izskaitļotu, novērotu vai izmērītu vērtību vai nosacījumu un patieso, noteikto vai teorētiski pareizo vērtību vai nosacījumu.
	kļūda	Nesaskaņa starp izskaitļoto, novēroto vai izmērīto vērtību vai stāvokli un patieso, specificēto vai teorētiski pareizo vērtību vai stāvokli.
	kļūda	Atšķirība starp aprēķināto, izmērīto vai eksperimentāli iegūto mainīgā vērtību un tā patieso vērtību, kas var būt uzdota vai noteikta teorētiski.
	kļūda	Atšķirība starp aprēķināto, izmērīto vai eksperimentāli iegūto mainīgā lielumu un tā patieso vērtību, kas var būt uzdota vai noteikta teorētiski.

Addition meaning for existing definitions 2

ISTQB	failure	Deviation of the component or system from its expected delivery, service or result.
Definitions in AkadTerm	kļūme	The inability of a computer system or related device to operate reliably or to operate at all.
	kļūme	Funkcionālas vienības spējas pārtraukums izpildīt kādu prasītu funkciju. Funkcionālas vienības nespēja izpildīt kādu prasītu funkciju.
	kļūme	Situācija, kad objekts zaudē spēju izpildīt kādu prasītu funkciju. Piezīmes: 1) pēc atteices objektam ir radies defekts; 2) atšķirībā no bojājuma, kas ir stāvoklis, atteice ir notikums; 3) definētais jēdziens neattiecas uz objektiem, kuru sastāvā ir tikai programmtūra.
	kļūme	Pilnīga neveiksme, bankrots, bojāeja, sabrukums.

More specific narrow meaning

ISTQB	scripting language	**A programming language in which executable test scripts are written, used by a test execution tool (e.g. a capture/playback tool).**
Definitions in AkadTerm	skriptēšanas valoda	**A simple programming language designed to perform special or limited tasks, sometimes associated with a particular application or function.**

Glossary translation to Latvian

Participants (in alphabetical order)

DPA Advanced technology centre SQUALIO

Latvian Academy of Sciences (Terminology Commission)

University of Latvia (Faculty of Computing)

Tools to minimize inconsistences

- Database with terms and definitions in different languages

- Concept map generated from ISTQB Glossary
  http://**science.df.lu.lv/tapost2013/**

Database of terms and definitions

- Most important fields
  - Language
  - Term
  - Variant
  - Definition
  - Synonym
  - See also
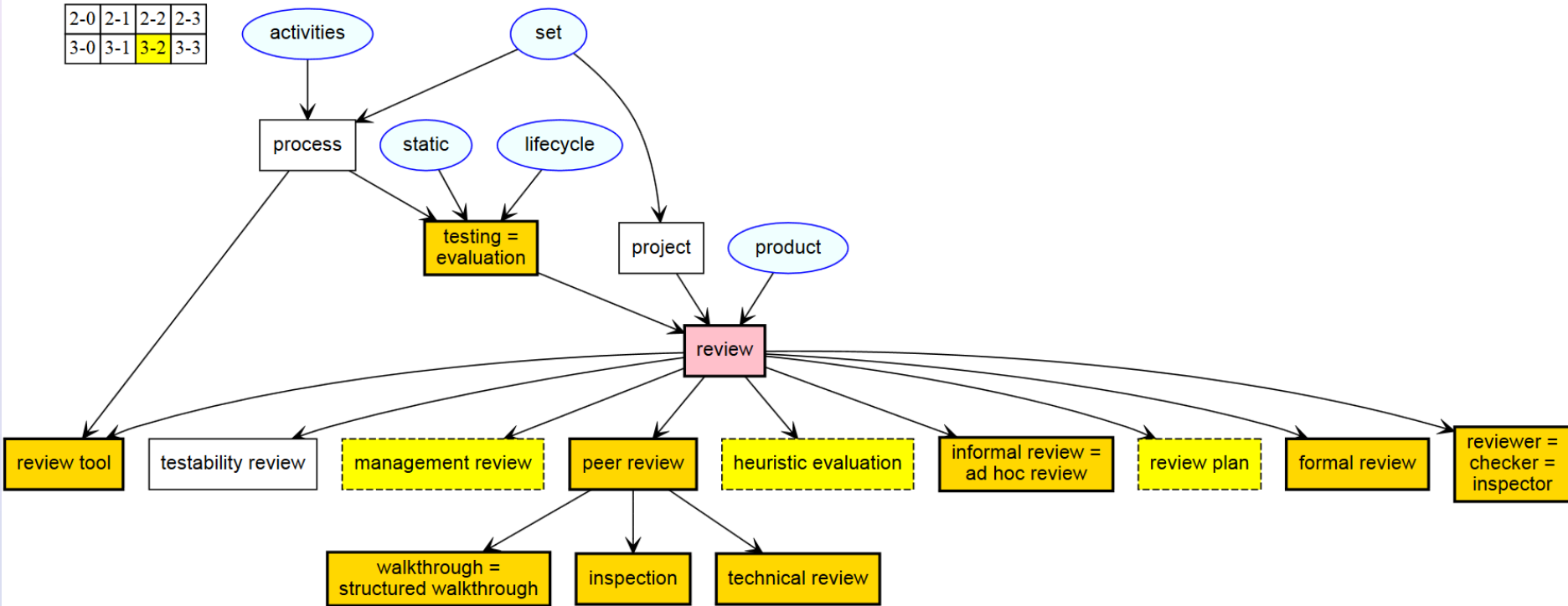 - Source reference
  - Link to external database

Annotated definition in English

anomaly

Any **{condition}** that deviates from expectation based on {requirement}s **{specification}**s, **|design| |document|**s, **|user| |document|**s, **{standard}**s, etc. or from someone's perception or **|experience|**. Anomalies may be found during, but not limited to, **{review}**ing, **{testing}**, **|analysis|**, compilation, or use of **{software}** **|product|**s or applicable **|document|**ation.

Concept map («review» in focus)

Concept map helps to collect similar or related terms, immediately see definitions of terms and traverse through whole term graph. ISTQB Syllabus level is shown using colour (*Gold, Yellow, Light yellow*).

Conclusions

- Translation of glossary with significant number of terms is not a trivial task

- It is near impossible to translate (create) glossary that is consistent itself and with glossaries in other languages

- Translation process can discover problems in original version (ISTQB Glossary in English)

- Help of testing community is welcomed to evaluate translation (please contact Vineta.Arnicane@lu.lv or Guntis.Arnicans@lu.lv)

Complementary material is available at
http://**science.df.lu.lv/tapost2013/**
Concept map will be updated with better version
Draft of translation to Latvian will be published