

ISERN 2007

Experimental Software Engineering Glossary of Terms

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Session Goals

- For the ISERN community to review, discuss and agree upon an ESE– Glossary of Terms for those interested in experimental software engineering worldwide to share and use.
 - Experimental initiatives in software engineering are increasing yearly. Research groups around the world have used different types of primary studies and more recently secondary studies to provide evidence and build a body of knowledge about software engineering. Motivated by the importance of the field to advance technology, some of them have tried to adapt concepts and definitions to their own local perspectives sometimes differently from those usually used by the ISERN community.
- This movement reinforces the need to have an explicit ISERN common terminology defined in multiple languages to communicate and share knowledge, as previously identified in the International Workshop at Dasgthul Castle, Germany, 2006. It will represent an important step towards a taxonomy (perhaps someday an ontology) of the experimental software engineering field.

Rough Agenda

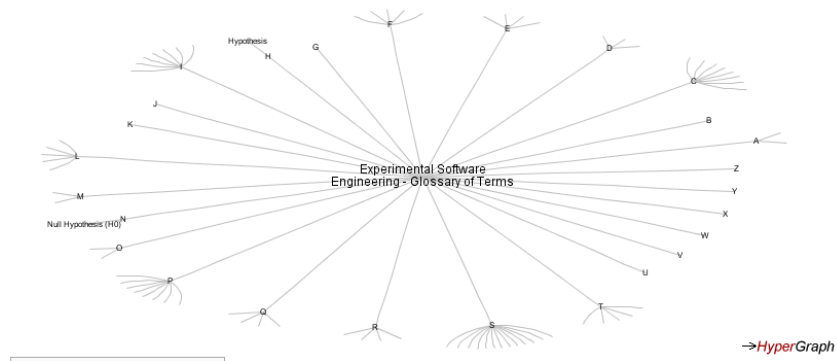
- Introduction to the ISERN glossary
- Selection of working groups and topics
- Breakout time
- Working group presentations
- Next step plans
- Summary of the session

The glossary

- Go to <http://lens-ese.cos.ufrj.br/wikiese/>
 - click on Experimental Software Engineering – Glossary of Terms

A hyper graph based on alphabet

Experimental Software Engineering - Glossary of Terms



The current table of contents

Contents (hide)	
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Terms

Terms [\[edit\]](#)

A [\[edit\]](#)

- [Alternative Hypothesis \(H1\)](#)
- [Assertions](#)

B [\[edit\]](#)

C [\[edit\]](#)

- [Case Study](#)
- [Confidence Interval](#)
- [Confidence Limits](#)
- [Conclusion Validity](#)
- [Construct Validity](#)
- [Control Object](#)
- [Controlled Experiment](#)
- [Critical Region](#)

References

References [\[edit\]](#)

BOOKS [\[edit\]](#)

- Wohlin, C.; Runeson, P.; Höst, M. et al. (2000) *Experimentation in Software Engineering: An Introduction*. Kluwer Academic Publishers
- Juristo, N. and Moreno, A. (2000). *Basics of Software Engineering Experimentation*, Kluwer Academic Publishers.
- van Solingen & Berghout (1999). *The Goal/Question/Metric Method*, McGraw Hill
- Berk, K. N. and Carey, P. (2004). *Data Analysis with Microsoft Excel Updated for Office XP*. Thomson Brooks/Cole.
- Fenton, N.E. and Pfeleeger S.L. (1997). *Software Metrics: A Rigorous and Practical Approach*, (2nd edition), International Thomson Press.
- Oman, P. and Pfeleeger S.L. (1997). *Applying Software Metrics*, IEEE Computer Society Press.

TECHNICAL REPORTS [\[edit\]](#)

- ISERN Basic Terminology (1998). http://www.wagse.informatik.uni-kl.de/research/isern/experiment/isern_definitions%20010829.html [↗](#)
- Travassos, G.H., Gurov, D. and Amaral, G. (2002) *Introdução a Engenharia de Software Experimental*, Relatório Técnico PESC 590/02 - COPPE/UFRJ <http://cronos.cos.ufrj.br/publicacoes/reltec/es59002.pdf>

Translation Aids

Japanese Translation Aids

[\[edit\]](#)

- <http://www.excite.co.jp/world/english/web/> provides translation of web pages between English and Japanese
- http://www.excite.co.jp/world/english/?before=&wb_lp=ENJA translates copy-and-paste text between English and Japanese
- <http://www.csse.monash.edu.au/~jwb/cgi-bin/wwwjdic.cgi?9T> translates Japanese into English (using a dictionary)
- <http://pcserver.sel.cs.hiroshima-cu.ac.jp/pmdic/pmdic/index.html> provides a dictionary of project management terms in English and Japanese

Citation Formats

Citation Formats

[\[edit\]](#)

Citation styles

IEEE

[x] ISERN "Experimental Software Engineering - Glossary of Terms," [Online document] Oct. 2007 [cited date] Available at http://lens-ese.cos.ufrj.br/wikiese/index.php/Main_Page

APA

ISERN (2007). Experimental Software Engineering - Glossary of Terms. Retrieved date from http://lens-ese.cos.ufrj.br/wikiese/index.php/Main_Page

Alternative Hypothesis

The screenshot shows a web interface for a concept named 'Alternative Hypothesis (H1)'. At the top, there are navigation tabs for 'article', 'discussion', 'edit', and 'history', along with a 'Log in / create account' link. Below the title, a hypergraph visualization shows a central node 'A' labeled 'Alternative Hypothesis (H1)' connected to several other nodes labeled 'B' and 'C'. A legend indicates 'Assertions' and 'Alternative Hypothesis (H1)'. A red arrow points to a 'HyperGraph' link. Below the visualization is a 'Contents' table with links for '1 Definition', '1.1 English', '1.2 Portuguese', and '1.3 Spanish'. The main content area contains a table with three columns: the language name, the definition text, and an '[edit]' link.

Definition	[edit]
English	[edit]
Alternative Hypothesis (H1)	[edit]
The hypothesis that remains tenable when the null hypothesis is rejected.	[edit]
Portuguese	[edit]
Hipótese Alternativa	[edit]
A hipótese que deve ser colocada a prova quando a hipótese nula é rejeitada.	[edit]
Spanish	[edit]
.	[edit]

A collection device

- This form simply lists the current entries in the glossary, and provides some space for additional entries.
- By giving it to each of you, you can recommend removing or adding entries
- You might also consider looking at the presentations and discussions here at ISERN to see if there are other terms which should be included.

	Current entries	Suggested entries
A	Alternate hypothesis (H1) Assertions	
B		
C	Case study confidence interval confidence limits conclusion validity construct validity control object controlled experiment critical region	
D	dependent variable direct measure dynamic analysis	
E	Experiment experimental object or unit Experimental error external validity	
F	Fact factorial design factors feasibility study Field study	
G		

Topics for discussion

- Is there a better organization than alphabetical? Hierarchical or other structure? Should we have multiple organizations?
- How should people submit words or phrases to the glossary? How should sources be recorded?
- How should the glossary be marketed? What will make it attractive and useful? How should items in the glossary be cited?
- What should be included in the glossary? What should be excluded?

More topics

- What other languages should be included? For example, Japanese?
- Should we reference other glossaries such as the IEEE Standard 610.12-1990 IEEE Standard Glossary of Software Engineering Terminology?
- ...

Next step plans

- To be filled in...

Summary of the session

- To be filled in
- Participants: ...