COMPARING MODEL-DRIVEN APPROACHES FOR SOFTWARE ENGINEERING EXPERIMENTS

This briefing reports scientific evidence on the adoption of MDE approaches to support the execution of coding experiments.

FINDINGS

The main MDE approaches to support the execution of experiments, namely:

- ExpDSL- Experiment Domain-Specific Language;
- ESEML - Empirical Software Engineering Modeling Language)
- ExperOntology - Experiment Ontology;
- eSEE - Experimental Software Engineering Environment

Possible criteria to compare approaches to support experiment planning and execution are:

- Standard empirical concepts
- Goals and targets
- Involved variables
- Subject description
- Design of experiment
- Tasks and activities
- Instruments and measurements
- Threats to research validity.

ExpDSL	
ESEML	
Exper Ontology	
eSEE	

Fig 1. Standard Concept Comparison

ExpDSL	
ESEML	
Exper Ontology	
eSEE	

Fig 2. Goal Specification Comparison

ExpDSL	Compl Ranc Design
ESEML	On Two-S
Exper Ontology	
eSEE	Compl Ranc Design

Fig 3. Design of Experiment Comparison

ExpDSL
ESEML
Exper Ontology
eSEE

Fig 4. Artifact Comparison

ExpDSL	
ESEML	
Exper Ontology	
eSEE	

Fig 5. Measurement Comparison

ExpDSL
ESEML
Exper Ontology
eSEE

Fig 6. Threat Comparison

Who is this briefing for?

Software engineering practitioners who want to make decisions about experimnetation based on scientific evidence.

Where the findings come from?

All findings of this briefing were extracted from the comparative study conducted by Ferreira Waldemar et al.

To access other evidence briefings on software engineering:

http://ease2017.bth.se

For additional information about ESE-INES:

https://sites.google.com/site/eseportal