Planning a Systematic Review on Business Case for Reference Architectures
Silverio Martínez-Fernández1, Lucas Bueno R. Oliveira2, Claudia Ayala1, Xavier Franch1, Elisa Y. Nakagawa2
1 GESSI Research Group, Universitat Politècnica de Catalunya (UPC), Barcelona, Spain
{smartinez,cayala,franch}@essi.upc.edu
2 Dept. of Computer Systems, University of São Paulo (USP), São Carlos, Brazil
{buenorlo,elisa}@icmc.usp.br

Reference Architecture

A Reference Architecture (RA) refers to an architecture that encompasses the knowledge about how to design concrete architectures of systems of a given application domain. Therefore, it should address business rules, architectural styles, best practices of software development, and software elements that support development of systems for that domain. This must be supported by a unified, unambiguous, and widely understood domain terminology [1].

Systematic Review (SR)

A Systematic Review aims at synthesizing studies from a given research topic or application domain. It is a literature review technique performed according to a systematic and reproducible process [2].

Motivation

✓ Little research evaluating the economic viability of RAs [3][4].
✓ Absence of work that summarizes the existing information to calculate the Return On Investment of RAs (but strong base in Product Line Architectures (PLA) [5][6]).

Research Questions of the Systematic Review

• RQ 1: Which analysis techniques have been proposed to build business case for RAs?
  ✓ What quality attributes of RAs have been reported to bring more benefit to the development and maintenance of software systems?
  ✓ What metrics have been used to quantify such quality attributes?
  ✓ What economic models or analysis techniques have been proposed to reason about the adoption of an RA?

• RQ 2: Which economic models for software PLAs are applicable to RAs?
  ✓ What quality attributes of PLAs that bring benefit to the development and maintenance of software systems are applicable to RAs?
  ✓ What metrics that have been used to quantify quality attributes of PLAs are applicable to RAs?
  ✓ What economic models or analysis techniques that have been proposed to reason about PLA s adoption are applicable to RAs?

References


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