

Reengineering towards Product Lines (R2PL 2005)

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1. Introduction

Today, software intensive systems are developed more and more using product line approaches. These approaches require the definition of a product line architecture that implicitly or explicitly specifies some degree of variability. This variability is used to instantiate concrete software product instances. A product line approach not only implies reuse of architecture-level design knowledge, it also facilitates reuse of implementation-level artefacts, such as source code and executable components. The use of software product lines can reduce the cost of developing new products significantly.

In practice software products are usually not developed from scratch. Also software product lines are typically introduced following an evolutionary approach. First a product line architecture is defined based on an initial set of products. Subsequently the scope of the product line is gradually extended by incorporating more existing and new products. Possibly before extending a product line its suitability for incorporating more products, needs to be evaluated first as well as the extent to which the new products and the products already included conform to the product line architecture.

For companies adopting a product line approach for their software development, the problem remains; how to reuse as much as possible of the existing legacy development artefacts. This applies to both the definition of a product line architecture and specifications of concrete product instances based on (legacy) software development artefacts. In this workshop¹ we discuss the use of reverse engineering technology to solve the problems described above.

2. Objectives

The workshop aims at bringing together practitioners and researchers to discuss the problems, and potential solutions related to reverse engineering and reengineering involved in introducing product line approaches. In particular we want to attract members from both the reverse engineering and software architecture communities.

3. Topics

The topics of interest for this workshop have an architecture focus and include (but are not limited to):

- Architecture conformance checking, e.g. between architecture and code or between product instances and product line architectures
- Evaluation of the scope of software product line architectures
- Derivation of a product line architecture from software development artefacts related to a set of existing products.
- Derivation of product instance descriptions from legacy architectures using reengineering techniques, e.g. by using MDA type of approaches
- Industrial experiences related to introduction of product line approaches in software development organisations.

In the workshop we focus on the use of reverse engineering and reengineering techniques in the areas mentioned above.

¹<http://www.st.ewi.tudelft.nl/~basgraaf/r2pl2005>