

XP Workshop on Agile Product Line Engineering

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Abstract. Software Product Line Engineering (SPLE) promises to lower the costs of developing individual applications as they heavily reuse existing artifacts. Besides decreasing costs, software reuse achieves faster development and higher quality. Traditionally, SPLE favors big design upfront and employs traditional, heavy weight processes. On the other hand, agile methods have been proposed to rapidly develop high quality software by focusing on producing working code while reducing upfront analysis and design. Combining both paradigms, although is challenging, can yield significant improvements.

Keywords: agile product line engineering.

1 Introduction

Background. Software Product Lines (SPLs) are sets of similar, yet not identical, systems developed by an organization based on a set of core assets [1]. SPLs have proved to be effective in lowering the cost of software development, reducing time-to-market, and enhancing product quality. Traditionally, SPLE favors big upfront design and employs traditional, heavy weight software engineering processes. A domain architecture is usually required before individual applications are engineered. On the other hand, agile development methods such as Extreme Programming (XP) have been proposed to rapidly develop high quality software by focusing on developing working code while reducing upfront design and process overhead. Also, anecdotal evidence shows that Scrum is keenly adopted by large software companies basing their product development on SPLs. Scrum bases itself on cross-functional, self-organizing teams working in tightly time-boxed development settings. It is interesting to note that although the goals of the two software paradigms have similarities (time-boxed, high quality, complex software), the solutions to realize the goals seem to conflict and little work is available in the literature to integrate them. Integrating agile software development and SPLE is indeed challenging, but has the potential to magnify enhancements in quality, cuts in cost and reductions in time-to-market.

Goal and Scope. The goal of this workshop is to bring together people who are using or want to use agile approaches in the development of SPLs. We plan to discuss the

similar goals but different philosophies of agile and product line development techniques, and try to explore to what degree they can (or should) be integrated, and how this integration can happen. Beside topics that will be proposed by the audience, we will try to address the following points: the needs of stakeholders (current and future), documentation, processes and activities to target for agility (domain engineering, application engineering, variability management), organizational software reuse, technology driven vs. customer driven projects, tool support, development culture & roles (architects, developers, testers).

2 Participation

Participants who wish to present in the workshop, are expected to submit a 2- to 4- page contribution under one of the categories below. The submission should be original. It should not have been accepted at or submitted to another venue (journal, conference, workshop, symposium). Submissions should be 2 to 4 pages in length.

Research papers: Original research on combining agile methods and SPLE. This can be either finished work or research in progress with preliminary results.

Experience reports: Stories of successful or unsuccessful attempts to integrate agile methods and SPLE. This is a great chance for people from industry to contribute their experiences and learned lessons.

Position papers: Thoughts and views about combining the two practices, supported by preliminary theoretical or practical work on the topic. This can also include the author's insight on current and future trends, or suggestions of best practices empowered by previous experiences.

3 Organization

Style. The workshop will be a half-day workshop. Participants whose work is accepted for presentation will be allocated time to present their submission, and engage in a Q&A session. Afterwards, a roundtable or "fishbowl" discussion on topics of interest to the audience will take place. The discussion will allow participants to engage in the workshop and ensure their questions are addressed. A summary of the discussions will be posted on a wiki page after the conference. Moreover, selected contributions will be included in a special issue journal.

Organizers. The co-chairs for this workshop are: Yaser Ghanam, University of Calgary, Canada; Kendra Cooper, University of Texas at Dallas, U.S.A; Pekka Abrahamsson, University of Helsinki, Finland; Frank Maurer, University of Calgary, Canada.

Reference

1. Clements, P., Northrop, L.: Software Product Lines: Practices and Patterns. Addison-Wesley, Reading (2002)