

Agile Testing in a Plan-Driven Process

Abstract

Many companies and agencies are comfortable with or even require a plan-driven software development process. In Germany, the V-Modell of software development processes is particularly popular. Still, such plan-driven processes could benefit from the adoption of agile testing methods, properly embedded in the overarching plan-driven process' process model. This thesis investigates how to do so and presents an extended version of the V-Modell with agile testing integrated. The thesis provides three case studies in which the extended model has been used and discusses the advantages and disadvantages of this extension.

Expected Results

- Literature review
 - Plan-driven software development process, in particular the V-Modell
 - The role of testing (and current practices) in these plan-driven processes
 - Agile testing methodologies with a focus on what could be used in this thesis
 - Use of agile methods in general in plan-driven development
 - Use of agile testing methods in plan-driven methods, if any
- Motivation and hoped-for results (hypotheses)
 - Discussion of why embedding agile testing methods make sense
 - Expected results of such an extended model when being applied
 - These are effectively the key hypotheses as to how development will improve
- An extended V-Modell with agile testing methods embedded
 - General properties of adapting of agile testing methods to the V-Modell context
 - Adaptation of specific agile testing methods to the particular phase of the V-Modell
 - Gap analysis as to where agile testing methods are missing or are not applicable
- Three case studies in which the extended V-Modell has been applied
 - Analysis of strengths and weaknesses
 - Evaluation of hypotheses from above

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