

Process Improvement of a Student Software Project

Context

- annual student project for undergraduates
- theoretical software development course as admission requirement
- team of 4 students and one supervisor
- scheduled for one semester
- approx. 800 man hours and 15.000 lines of code
- card game with graphical user interface

Baseline Process

- iterative development
- partial modeling with UML
- eXtreme Programming (XP)
 - pair programming
 - test driven development

Analysis of the Baseline Process

- lead time (fixed schedule)
 - ▶ suitable amount of desirable and optional features were implemented within the time line
- quality
 - ▶ high product quality without any serious bug in the acceptance test
- effort (480h/600h/800h)
 - ▶ very high workload and often underestimated effort for the actual implementation

Issue

The high workload is mainly caused by pair programming and test driven development.

These techniques ensure a high product quality, yet they are quiet often expendable for simple programming task.

Goals of the SPI Initiative

- what is to be reached:
 - ▶ a reduction of the effort for the implementation and improvement the estimation of the effort
- what shall be avoided:
 - ▶ significant decline in the product quality

