

# Software Quality FS 2011

## Discussion Exercise 3

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# Outline

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- Frequent problems in exercise 3
- Wrap Up
- (Formalities for the exam)

# Exercise 3.2

## Defining Quality

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*Internal quality*: quality of intermediate artifacts

static / dynamic models, documentation and source code

*External quality*: quality of the final system assessed by its external behavior

execution in a simulated environment, with simulated data

*Quality in use*: effect of the system in use

extent to which users can achieve their **goals** using the system in their **context of use**

# Exercise 3.2

## User **needs** when editing photographs

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### Effectiveness ( $\neq$ Efficiency)

- Improvement of various characteristics of photos (color balance)

- Correction of small defects in photos (red eyes, planes in sky)

### Productivity

- Reduction of time needed for photo editing

- Batch processing of photos

### Safety

- Preservation of the original photo

- Ability to undo changes

### Satisfaction

- Invitation to creative exploration

- Stable editor

# Exercise 3.3.1

## Improving ImageJ

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ImageJ was meant for image (microscopy) processing, not photo editing

→ More than just bug fixing

HoQ: Means-end analysis

Product's features (external quality)

Needs of users (quality in use)

Interpret your HoQ...

# Exercise 3.3.2

## **Strengths** and weaknesses of QFD / HoQ

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Provides an overview of the *market*...

- Features

- Requirements

- Competitors

... suitable for cost / value analysis

... helps transfer of knowledge among parties

- Management

- Marketing

- Technical Development

# Exercise 3.3.2

## Strengths and **weaknesses** of QFD / HoQ

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QFD assumes the product will be marketed and market survey results are accurate

Efforts to establish and maintain HoQ

- Size of the HoQ

- Needs and features change

Limited scope of software development life-cycle

# Wrap Up

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*In theory there is no difference between theory and practice. In practice there is.*

*-- Jan L. A. van de Snepscheut or Yogi Berra.*

Exercise 1: SPIN and PROMELA

Exercise 2: Testing / Debugging

Exercise 3: Quality requirements / ISO 9126



# Exam

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**Location:** BIN 2.A.10

**Date:** Monday May 2nd, 2pm

**Duration:** 90 minutes

**Language:** German

**Structure:** ~1/3 MCQ, ~1/3 Case Study and ~1/3 Essay

Sample exam is available on the lecture's website

**Scope:** Lecture + Exercises

**Cheat sheet:** 1 double-sided handwritten A4 page