The Ongoing Revolution in Software Testing

Presentation by Jon Elverkilde

February 15, 2008



- Background
- Motivation

2 Common assertions

- The role of testers
- Test Planning and Documentation
- The Practice of Testing

3 Conclusions

- Agile and test-driven development
- Context Driven Testing
- Discussion

Background Motivation

Cem Kaner

- Professor of Software Engineering, Florida Institute of Technology.
- Ph.D. in experimental psychology and a law degree.
- Author and co-author of 4 books.

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Background Motivation

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- Some assumptions about testing are wrong.
- Programs where linear and shorter (1960-70).
- Software is becoming more complex and so is development.
- These assumptions may lead to bad software.

The role of testers Test Planning and Documentation The Practice of Testing



 Primary reason: Find bugs

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Reasons

• Primary reason: Find bugs • Conformance to specification/regulation. Verify correctness, etc.

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• Testers can't (and shouldn't) assure quality, but help by *assessing* quality.

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- Locks down details before implications (cost, difficulty, etc.) are known. In a evolutionary model, the trade-off is between features and time to market (not reliability).
- Specification describes how the program is *supposed* to work. This approach may narrow the testers' thinking.

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Test Planning and Documentation

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- (Other) testers supposedly learns about the test and program design. This is not proved, rather testers are likely to be influenced. *Industry worst practice(!)*

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The Practice of Testing

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• A project will (perhaps) naturally fit a curve. By using this, e.g. to predict a release, the model no longer fits.

Agile and test-driven development Context Driven Testing Discussion

Agile and test-driven development

• Agile development is characterized by iterations (of weeks);

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- Every iteration starts with a complete review and ends with a (working) release.
- In *TDD* the project cycle starts with adding a test, then writing the code, then refactoring.

Agile and test-driven development Context Driven Testing Discussion

The Seven Basic Principles of the Context-Driven School

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The Seven Basic Principles of the Context-Driven School

- The value of any practice depends on its context.
- There are good practices in context, but there are no best practices.
- People, working together, are the most important part of any project's context.
- Projects unfold over time in ways that are often not predictable.
- The product is a solution. If the problem isn't solved, the product doesn't work.
- Good software testing is a challenging intellectual process.
- Only through judgment and skill, exercised cooperatively throughout the entire project, are we able to do the right things at the right times to effectively test our products.

Outline Introduction Common assertions Conclusions Agile and test-driven development Context Driven Testing Discussion

Discussion

• What "school" /style is DIKU preaching?

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- What "school" /style is DIKU preaching?
- Can some of this be applied at DIKU? (academia in general?)

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Discussion

- What "school" /style is DIKU preaching?
- Can some of this be applied at DIKU? (academia in general?)
- If not, could it pose a problem?

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