No test levels needed in agile software development!

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Lector Software Quality and Testing

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Portland
Agenda

• About agile
• Testing in agile software development
• No test levels needed
• Product risk analysis (one-table approach)
• Summary
About agile - Some iterative methods

• **Rapid Application Development (RAD)**
  - 80’s, Barry Boehm, Scott Shultz and James Martin

• **Scrum**
  - 1986, Ikujiro Nonaka en Hirotaka Takeuchi

• **Dynamic Systems Development Method (DSDM)**
  - 1995, DSDM Consortium

• **eXtreme Programming (XP)**

• **Feature Driven Development (FDD)**
  - 1997, Jeff de Luca
About agile - Agile Manifesto (2001)

- Individuals and interactions *over* processes and tools
- Working software *over* comprehensive documentation
- Customer collaboration *over* contract negotiation
- Responding to change *over* following a plan

While there is value in the items on the right, the items on the left are valued *more!*
Vision on testing in agile environments

• Manifesto is starting point

• Integrated test process
  - testing activities must be integrated in both the development process itself and in the team
  - testing should move the project forward
  - testing tools are increasingly important
  - testing is part of (definition of) done

• Find balance by making well-considered choices

• (Re)use values of proven test approaches
Put the test vision into practice by:

- Seeing testing as the driver of the project
- Integrating testing in the entire process
- Start testing from the beginning of the project
- Integrating testing in the team
- Giving testing a role in the requirements elicitation
- Making it possible to test with a limited test basis
- Seeing testing as a part of "done"
First things to do (being a tester)

• Make sure you understand the business (domain knowledge)
• Involve yourself in unit testing
• Assist other team members in non-testing activities
• Communicate about what is not documented
• Design test cases so they can be automated
No test levels needed - Characteristics

- No separate test levels like system test or (user/production) acceptance test
- All team members work together
- All disciplines work together, support each other
- No designer, developer, user or test teams
- No test levels/teams with their own budget
- Team members accept the feature with their own acceptance criteria in mind
No test levels needed - Traditionally

wish, legislation, policy, opportunity, problem

requirements

functional design

technical design

realisation

system tests

development tests

acceptance tests

operation & management

Accepting party

Supplying party

SIT, FAT, UAT, PAT

ST

UT, UIT
No test levels needed – Intermediate
No test levels needed – Agile way

- wish, legislation, policy, opportunity, problem
- requirements
- user stories
- features
- time-boxed test/development
- operation & management
  - functionality
  - suitability
  - user-friendliness
  - performance
  - security
  - continuity
  - manageability
  - reusability
  - maintainability
  - etc.
## Product risk analysis – Stakeholders

<table>
<thead>
<tr>
<th>User Story</th>
<th>Characteristic</th>
<th>Stakeholder</th>
</tr>
</thead>
<tbody>
<tr>
<td>US 1</td>
<td>Functionality</td>
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<td>User-friendliness</td>
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# Product risk analysis – Risk table

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<th>Damage</th>
<th>Chance of Failure</th>
<th>Risk Class</th>
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Notes:
- SH: Severity
- DC: Detection
- COF: Coverage
- RC: Relevance
- Intensity: ●●● (High), ● (Medium), ● (Low)
- Test Design Technique
- Test Cases created (Y/N)
- Test Cases executed (Y/N)
- Tests Passed (Y/N)
• No separate test levels
• All acceptors present in relevant iterations
  - prepare/execute their own tests (with/without help)
• Risk determined per feature/qc by and per acceptor
• Test strategy determined per feature/qc
  - test intensity / test design techniques
• Just one table on white board
• Product is explicitly accepted by all acceptors
Thank you for your attention!

Questions?
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