

Scrum and Agile QA
door **Tom Vercauteren, SDWorx**

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TECHNOLOGISCH INSTITUUT
Discussiegroep Software Testing

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Scrum and Agile QA

Tom Vercauteren, April 22th, 2010




Who is SD Worx?

- Today: Third largest European HR outsourcing operation
 - a complete range of Payroll & HR management services
 - 40,000 clients (companies)
 - 1,200,000 payslips processed monthly
 - Customer loyalty: 98.5 %
- Offices in Belgium (26), Netherlands (1), Luxembourg (1), France (3), Germany (3).



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- What is Scrum?
- The Product Backlog
- Sprint Planning
- Scrum board
- Quality Assurance?
- What to do with bugs?
- Final notes





Who is Tom Vercauteren?


- graduated as “Waterfall” developer
- Methodology Evangelist (since 1998)
- ISEB Foundation Certificate in Software Testing (2002)
- Functional Tester (since 2002)
- Agile Tester (since 2009)


What is Scrum?
The Product Backlog
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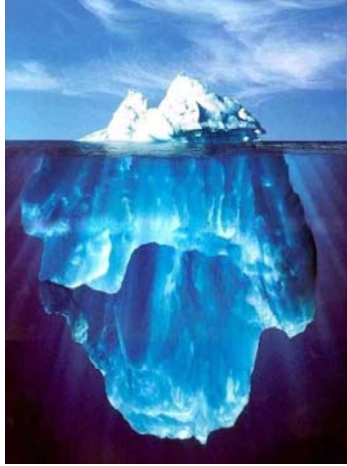
1. What is Scrum?
2. The Product Backlog
3. Sprint Planning
4. Scrum board
5. Quality Assurance?
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Just the tip...

- *This is NOT a complete Scrum training. There is a lot more to Scrum than what I will tell you today.*
- *This is NOT an Agile QA training. There is a lot more to that too.*
- *This is an introduction to “how to do both”.*





What is Scrum?

The Product Backlog

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What is Scrum?

- **Scrum**, in the sports of rugby, is a way of restarting the game, either after an accidental infringement or when the ball has gone out of play.





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Why Scrum (or Agile)?

- GOAL: deliver as much business value as soon as possible
- Exactly what the customer needs, no more, no less.
- Very short feedback loops.
- Very high transparency.
- Very high quality.

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Scrum in a nutshell?

- *Split your organization in small, cross-functional, self-organizing teams*
 - *This includes the developers, testers, analysts (sort of...)*
 - *This also includes the customer!*
 - *This does NOT include a project leader.*
- *Split the work in small, concrete deliverables*
 - *Sort the list according to the value of each deliverable for the customer*
 - *Estimate the time needed for each deliverable*
- *Split the time in small in fixed length iterations*
 - *1 to 4 weeks*
 - *potentially shippable product after each iteration*

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Scrum in a nutshell?

- At the start of each iteration:
 - Decide what deliverables can be developed in this iteration
 - Split each deliverable in small tasks (max. 2 days)
- Each day:
 - Say what you did yesterday
 - (Say what kept you from doing what you planned)
 - Say what you will do today
- At the end of each iteration:
 - Evaluate!



→ What is Scrum?

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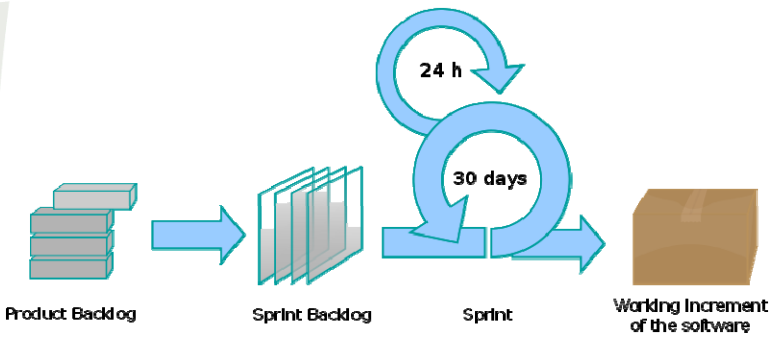
Quality Assurance?

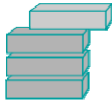
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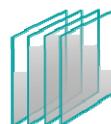
What is Scrum?



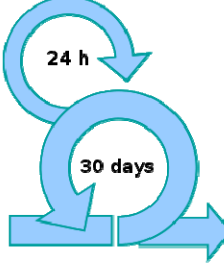
Product Backlog

→




Sprint Backlog

→




Sprint

→



Working Increment of the software



→ What is Scrum?

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What is Scrum?

- Scrum is interactive and incremental
- Scrum optimizes predictability and controls risks
- Three basic principles:
 - Transparency: everybody knows what needs to be done, everybody knows the problems we face, ...
 - Inspection: the results and the process are inspected frequently, and by everyone, so problems arise early.
 - Adaptation:
 - new tasks can be added during Daily Scrum Meeting
 - process changes can be made during Sprint Retrospective
 - project scope changes can be made during Sprint Planning

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What is Scrum?

- Only 3 roles:
 - Product Owner: responsible for product vision and priorities
 - Team Member: responsible for creating the product
 - Scrum Master: removes impediments that the team members encounter (this is NOT the project leader)
- So where did the Tester go?
- (And what about the Analyst?)
- SD Worx started Scrum in January 2009
- I got to define my own role...

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The Product Backlog



→ In a Waterfall Project, the Specs look like this:



→ What does Scrum do with this?

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The Product Backlog


→ In Scrum, the specs are called “User Stories”, and look like this:

- As an administrator I want to be able to import documents into a document store.
- As a user I can only see the documents to which I have sufficient rights.
- As a user I want to be able to search relevant documents by a number of criteria.
- As a user I want to be able to use advanced search criteria to find documents
- As a user I want to be able to download documents that I found.

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The Product Backlog

- They were created by the “Product Owner”, and he will prioritize them. 1000 means “I need this yesterday”, 0 means “I couldn’t care less about this item”.
- 1000 - As a user I can only see the documents to which I have sufficient rights.
- 1000 - As a user I want to be able to search relevant documents by a number of criteria.
- 800 - As a user I want to be able to download documents that I found.
- 800 - As an administrator I want too be able to import documents into a document store.
- 500 - As a user I want to be able to use advanced search criteria to find documents

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The Product Backlog



- Next, the team will play “Planning Poker” to assign Story Points.
- 1000 (5) - As a user I want to be able to search relevant documents by a number of criteria.
- 1000 (10) - As a user I can only see the documents to which I have sufficient rights.
- 800 (2) - As a user I want to be able to download documents that I found.
- 800 (5) - As an administrator I want too be able to import documents into a document store.
- 500 (5) - As a user I want to be able to use advanced search criteria to find documents

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Sprint Planning

- For the first Sprint, we guess we'll be able to do 10 Story Points.
- We'll deliver 1800 Business Value:
- 1000 (5) - As a user I want to be able to search relevant documents by a number of criteria.
- 1000 (10) - As a user I can only see the documents to which I have sufficient rights.
- 800 (2) - As a user I want to be able to download documents that I found.
- 800 (5) - As an administrator I want to be able to import documents into a document store.
- 500 (5) - As a user I want to be able to use advanced search criteria to find documents

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Sprint Planning

- Next, we need to work out the details.
- These are called Acceptance Criteria
- 1000 (5) - As a user I want to be able to search relevant documents by a number of criteria.
 - Search by creation date (before, on, after, between)
 - Search by document type (invoice, pay slip, ...)
 - ...
- During the Sprint, this list will probably grow!

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Sprint Planning

- Then, what tasks do we have to perform to do this?
- 1000 (5) - As a user I want to be able to search relevant documents by a number of criteria.
 - *Setup the project in the Dev. Environment*
 - *Add the project to Source Control*
 - *Setup Continuous Integration*
 - *Setup the Database*
 - Create the search page
 - Test the search page
 - ...
- Tasks should take no more than 2 days

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Scrum board

User story	To Do	Progress	In Test	Done
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Search Documents 5 story points Business Value: 1000 </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <div style="border: 1px solid black; padding: 2px; font-size: 8px;">creation date (before, on, after, between)</div> <div style="border: 1px solid black; padding: 2px; font-size: 8px;">document type (invoice, pay slip, ...)</div> </div>	<div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">Setup Dev. Env.</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">Add to Src. Cntrl.</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">Setup DB</div> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">...</div> <div style="border: 1px solid black; padding: 2px;">Exec. Tests</div>			

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The scrum board and the tester

- The tester should be present at the daily stand-up meetings.
- If you share a tester between projects, he should still be present at least twice a week.
 - Best practice: “all shared team members (tester, customer rep., project manager, ...) attend our daily scrum at least on <weekday>”
 - Best practice: “As a shared team member, I always inform the team of when I’ll (not) attend the daily scrum.”

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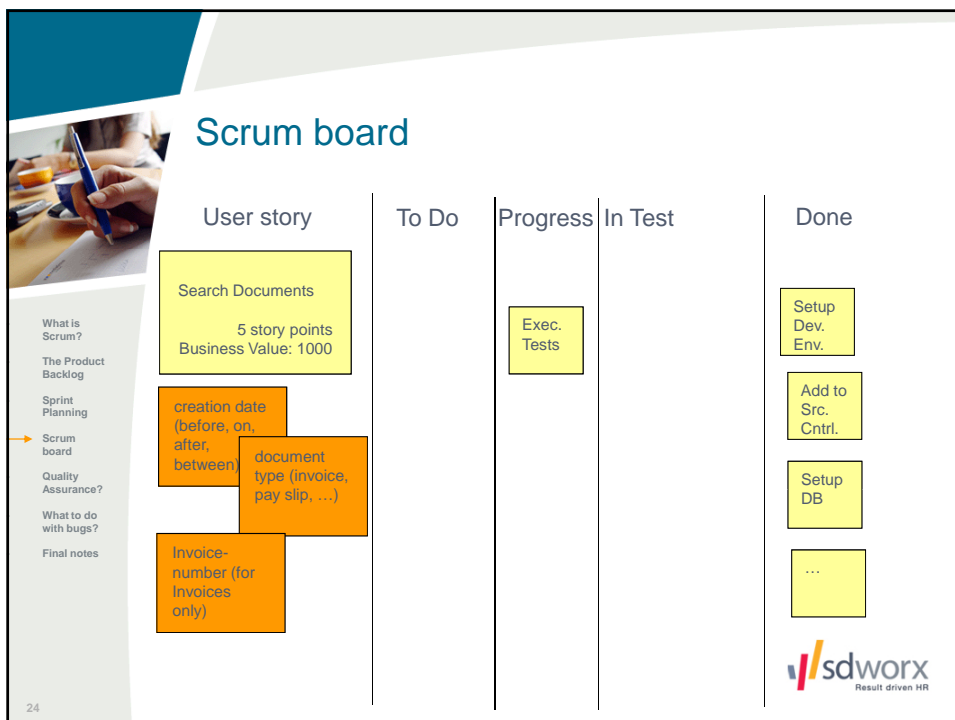
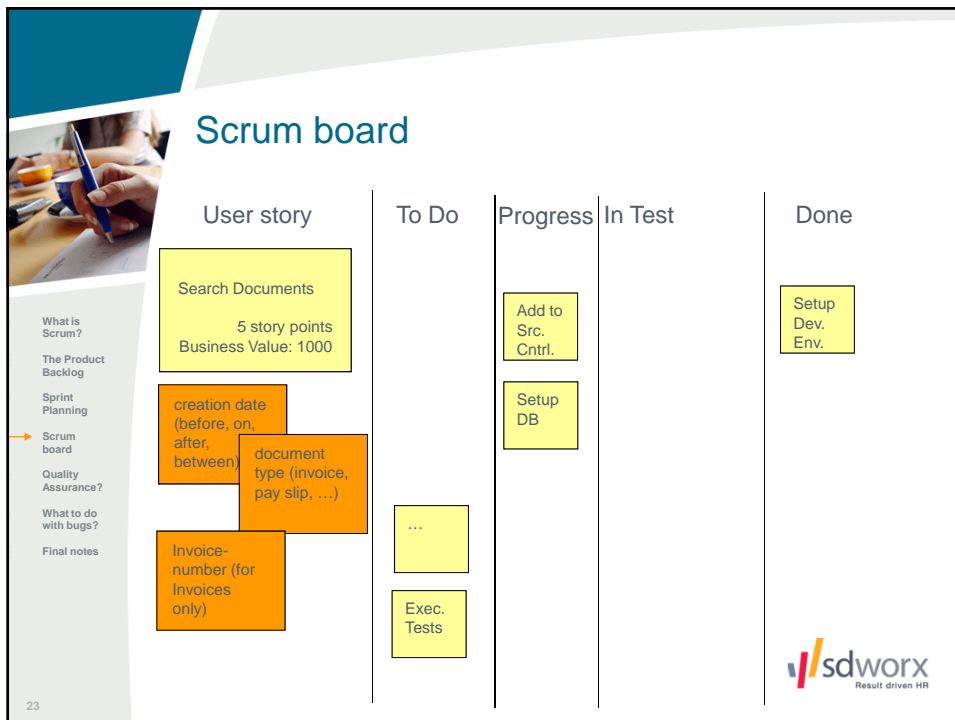



Scrum board

User story	To Do	Progress	In Test	Done
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Quality Assurance?

- The analysis is partly “uncovered” during development (as Acceptance Criteria)
- When a User Story is developed, we want to test ASAP.
- There is no time for:
 - Writing a rigorous test plan
 - Creating in depth, fully detailed test scripts
 - Running a complete set of regression tests (manually)

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Quality Assurance?

- Agile documentation: only what is absolutely necessary!
- Agile test scripts: only what is absolutely necessary!
- “Exploratory” testing, rather than structured testing
“Exploratory testing is simultaneous learning, test design and test execution” - James Bach
- This is not the same as “trial and error”, this is not “unstructured testing”
- Automated regression tests:
 - for Web: Selenium, Fitnesse, ...
 - for Winforms: Visual Studio with UI Automation, other commercial tools
 - ...

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What about bugs?



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→ Evaluate them at the next Stand-Up meeting


- Bugs belonging to active User Stories:
 - add to this story
 - the story can't be finished until the bug is fixed
- Bugs belonging to previously delivered User Stories:
 - add to the top of the board
 - yellow tasks in progress can be finished, but the bug tasks are next.
- Exception: cosmetic bugs may be added to the backlog in a new story.



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What about bugs?

User story	To Do	Progress	In Test	Done
<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Search Documents 5 story points Business Value: 1000 </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> creation date (before, on, after, between) </div> <div style="border: 1px solid black; padding: 5px;"> Invoice-number (for Invoices only) </div>	<div style="background-color: red; color: white; padding: 5px; display: inline-block;"> Bug 1 25504 </div>			<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Setup Dev. Env. </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Add to Src. Cntrl. </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> Setup DB </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> ... </div> <div style="border: 1px solid black; padding: 5px;"> Exec. Tests </div>
<p>Decision make by team:</p> <ul style="list-style-type: none"> • Fix in this Sprint • Add to Product Backlog, for later fixing • "not a bug" 				



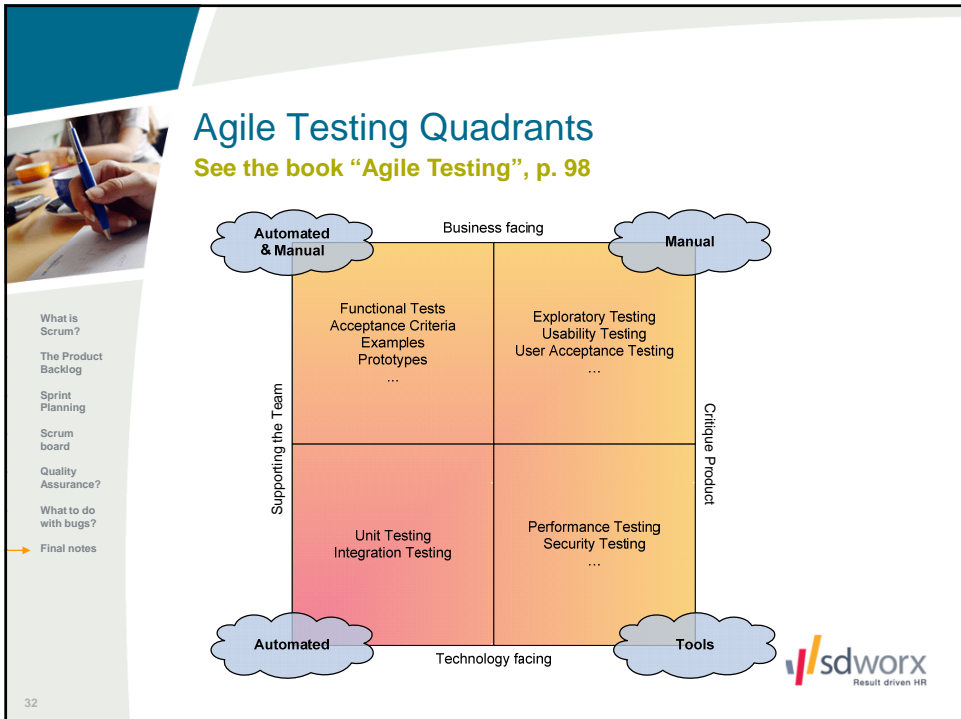
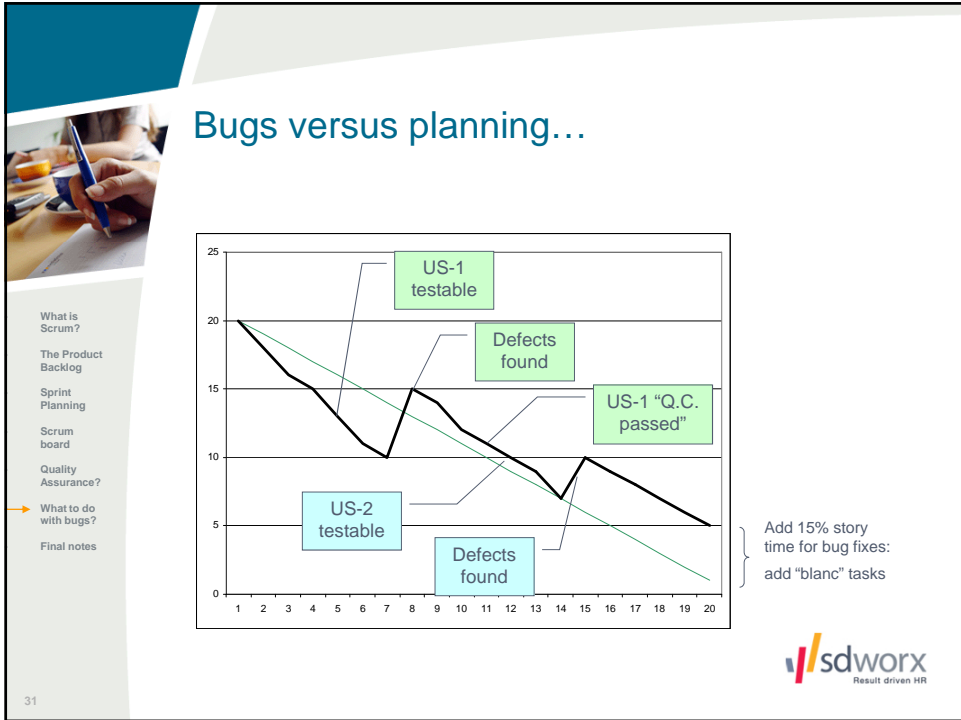
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What about bugs?

	User story	To Do	Progress	In Test	Done
<ul style="list-style-type: none"> What is Scrum? The Product Backlog Sprint Planning Scrum board Quality Assurance? → What to do with bugs? Final notes 	<div style="border: 1px solid black; background-color: #ffffcc; padding: 5px; margin-bottom: 5px;"> Search Documents 5 story points Business Value: 1000 </div> <div style="display: flex; justify-content: space-between; margin-bottom: 5px;"> <div style="border: 1px solid black; background-color: #ffcc00; padding: 2px;">creation date (before, on, after, between)</div> <div style="border: 1px solid black; background-color: #ffcc00; padding: 2px;">document type (invoice, pay slip, ...)</div> </div> <div style="border: 1px solid black; background-color: #ffcc00; padding: 5px;"> Invoice- number (for Invoices only) </div>			<div style="border: 1px solid black; background-color: #ff0000; color: white; padding: 5px; display: inline-block;"> Bug 1 25504 </div>	<div style="border: 1px solid black; background-color: #ffffcc; padding: 5px; margin-bottom: 5px;"> Setup Dev. Env. </div> <div style="border: 1px solid black; background-color: #ffffcc; padding: 5px; margin-bottom: 5px;"> Add to Src. Cntrl. </div> <div style="border: 1px solid black; background-color: #ffffcc; padding: 5px; margin-bottom: 5px;"> Setup DB </div> <div style="display: flex; justify-content: space-between; margin-bottom: 5px;"> <div style="border: 1px solid black; background-color: #ffffcc; padding: 5px;">...</div> <div style="border: 1px solid black; background-color: #ffffcc; padding: 5px;">Exec. Tests</div> </div>
	<small>Result driven HR</small>				
	<small>29</small>				

What about bugs?

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	<small>Result driven HR</small>				
	<small>30</small>				







Unit & Integration Testing

- Each module of the code tested independently.
- Each module in interaction with other modules
- A lot of teams do Unit Testing OR Integration Testing (usually only unit testing)
- Often focus on “fine weather” scenarios

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Functional Testing

- This is the closest to what we testers are used to do (in a waterfall project)
- No “requirements document”, but “User Stories”, Examples, Acceptance Criteria, ...
- Remember: close interaction with the Developers! Try not to do “mini-waterfalls”
- This should be (at least in part) automated. As you work very close to the developers: let them do the automating (if there is time)

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Acceptance testing

- “I’ve seen the demo, so I know it works” said one of our product owners...
 - Shouldn’t he do some real live tests on the software?
- “I’m using the test version to do what I would do with the final version, and I found 20 problems in it!” said another product owner...
 - He seemed angry. Didn’t he realize that this was a TEST version?

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Non-functional testing

- You may need to create a “technical User Story” for:
 - performance testing
 - security testing
 - ...

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When are we done?

→ “Definition of done”:

- Task: tested by developer (unit & integration tests)
- User story: functionally tested, no significant defects left
- Defect: resolved by developer, re-tested and closed by tester

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So you got yourself an Agile Tester...

→ ...and he complains that there is nothing for him to do during the first part of the Sprint:


- Tell him to prepare tests
- Ask him to review the unit tests
- Let him figure out which tests can be automated

→ ... and he complains that there is way to much work to do for him

- You are part of a cross-functional team, so all team members can – and should – test. A user story is not done until all tests are executed. This would mean the whole team fails. They should all help!

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The Agile challenge!

- Break down the wall between developers and testers
- Learn exploratory testing
- Become a performance test expert
- Become a test automation expert

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Questions?

- Ask now!
- Or contact me later: tom.vercauteren@sdworx.com

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References

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- <http://www.agilerecord.com>
 - “Are All Pigs Equal – or are some more equal than others?”, Issue 1, p. 10-14
 - “Is there such a thing as an Agile Tester?” Issue 1, p. 30-31
- <http://www.scrumalliance.org>
 - See the presentation “A practical guide to implementing Agile QA process on Scrum Projects”, by Syed Rayhan
- <http://infoq.com/>
 - check the books on “Scrum and XP from the Trenches” and “Kanban and Scrum – making the most of both”

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