

Agile and Test Estimation

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Objectives

This presentation will discuss:

- key terms and techniques that make a project “Agile”;
- the roles of testers, from the Test Manager through to the Test Analyst;
- approaches to consider when testing, giving context to the “traditional” test approaches in an Agile project;
- hints and tips for Estimating the Testing effort.

Agile Overview

The Agile Manifesto

➤ The Agile Manifesto

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

That is, while there is value in the items on the right, we value the items on the left more.

<http://agilemanifesto.com/>

Agile Defined

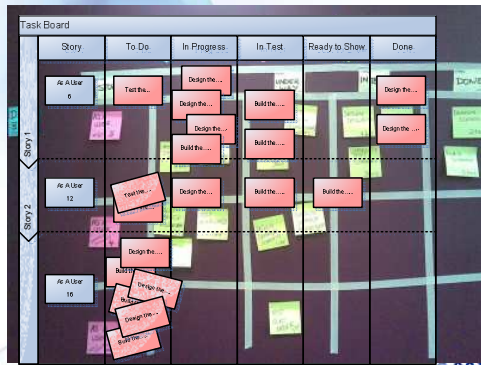
- iterative development, where requirements and solutions evolve through collaboration between self-organizing cross-functional teams.

http://en.wikipedia.org/wiki/Agile_software_development

The Agile Approach

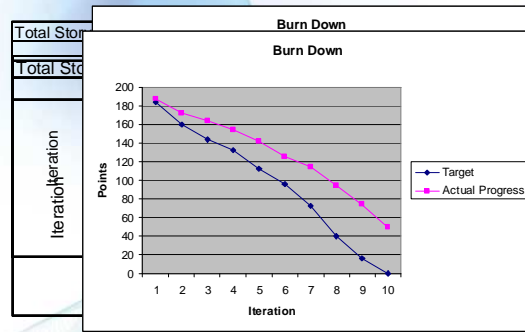
- No pre-defined requirements ~ evolutionary requirements
- Small teams ~ close communication
- Customers and developers working together on **small** iterations
- Focus on functionality rather than GUI
- Rapid turn around – working software faster
- Morning meetings for “today’s” activities
- Test Driven Development

Wall Ware



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Burn Down / Burn Up Chart



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What is Agile Testing?

“Traditional” Testing

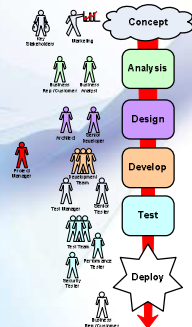
- The aim of testing is to provide information about the system under test
- Testing is about reporting on the level of confidence we have in the quality of the system
- Based on “How will we know it’s done?”
- Focus on ensuring “Requirements” are met
- Focus on results of tests
- Focus on coverage and defect metrics

AGILE TESTING HAS THE SAME AIMS

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“Traditional” Testing

- The Sequential Model
- Testing at the end
 - Based on analysis of documents (Requirements / Designs)
 - Little or no contact with the document authors
 - All testing done at once

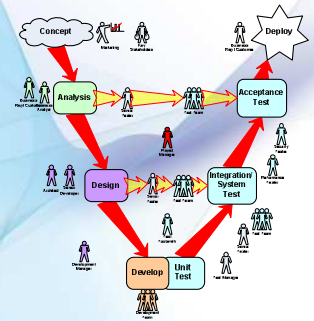


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“V Model” Testing

The V-Model Model

- Testing at the end
- Based on Analysis of documents (Requirements / Designs) – Early analysis and options for change
- Earlier involvement in the life cycle
- Clearly defined test levels and objectives:
 - Unit
 - Integration
 - System
 - Acceptance

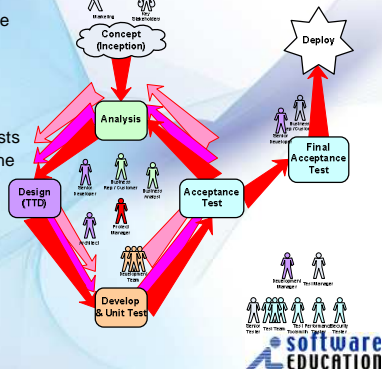


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Agile Testing - early years!

- Tests are derived by the developers as they are designing the system
- Automated tests are used
- Then they build the software to pass the tests
- Then they move onto the next iteration

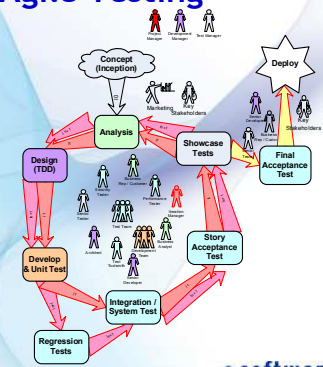
BUT...where are the Testers??



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“Real” Agile Testing

- Tests are derived by the team as they are analysing and designing the system
- Automated tests are used by developers AND testers
- Testers run more tests
- The team showcases to the Key Stakeholders
- Then the team move onto the next iteration



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Agile Testing

- Agile Testing – treating development as the customer of testing, emphasising the test-first design paradigm.
- Test Driven Development – test cases are developed, and often automated, before the software is developed to run the test cases.
ISTQB Standard Glossary of Terms used in Software Testing

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Testing Roles

Traditional Roles

- Test Manager
- Senior Tester / Test Lead
- Test Analyst
- Technical Tester
- Performance Tester
- Test Toolsmith
- Security Tester

Agile Roles

- Test Manager
- Senior Tester / Test Lead
- Test Analyst
- Technical Tester
- Performance Tester
- Test Toolsmith
- Security Tester
- Iteration Manager
- Showcase Tester

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Agile Test Estimation

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Estimation Factors

- The standard test factors need to be considered when Estimating an Agile project also...
scope, risks, key milestones, key test focuses (functional or non-functional), static testing, entry criteria, exit criteria, metrics, test case preparation, test tracking, documentation requirements, data needs, environment needs, team skills, training needed, tools used...

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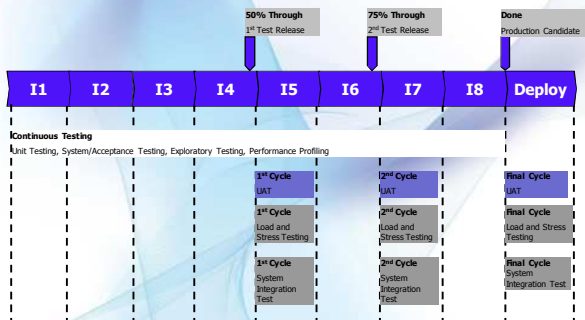
Agile Testing

- ⚡ The standard test levels and targets need to be applied.
- ⚡ Testing is done in a slightly different order
- ⚡ Some testing is MANDATORY – the “showcase” activity
- ⚡ Defect management is more obvious but takes practice
- ⚡ No story is “DONE” until both Development and Testing have been completed.

Estimation Factors

- ⚡ They have to be considered both for the overall project AND for the specific iteration!
- ⚡ Big Picture planning still has to happen!
- ⚡ Test plans may still have to be written!
- ⚡ Test results may still have to be archived!
- ⚡ The formats may be different though...

Estimation Planning



Agile Testing - Unit Testing

- ⚡ Estimates are incorporated into the estimates for each story.
- ⚡ Developers mainly do the unit testing.
- ⚡ Testers can work with Developers while defining the unit tests to be both Positive and Negative test cases – where appropriate.

Agile Testing - Integration Testing

- ⚡ Estimates are incorporated into the estimates for each story – when more than one iteration has been developed.
- ⚡ Testers may need to define a “task” that takes the specific Integration into account – for this ITERATION.

Agile Testing - System Testing

- ⚡ Estimates are developed for specific System Tests when the “system” will be available.
- ⚡ Specific “system testing” iterations may be needed.
- ⚡ Can be based on the acceptance criteria defined for each story – or parts of it.
- ⚡ The first step in defining “done”.

Agile Testing - Acceptance Testing

- Clearly defined step in the development lifecycle.
- May be a specific series of activities focussed on Acceptance by the business.
- Based on the acceptance criteria defined for each story by the customer.
- The last step in defining "done" – until it passes it is not "done"!

Agile Testing - Regression Testing

- Huge impact in Agile Projects
- Provision MUST be made for AUTOMATED UNIT TESTING...for Regression purposes.
- Continuous Integration sees these Regression Tests run before any build is delivered to a tester – if the regression test fails – the build cannot be passed on.
- Impact and risk grows as project continues.

Agile Testing

- Need to be able to clearly articulate all of the phases of testing required
- Testers need to make specific stands about quality when required
- Understand there may not be time, or the need for documentation.

Making Agile Testing Work

- All team members clearly understanding their roles and responsibilities
- All team members valuing the roles and responsibilities of other team members
- The team remembering that it is about the product NOT the process
- The business understanding that it is about the product NOT the process
- The business making the commitment to be involved

Questions or Comments?



What's Next?

