



Agile Applied

presented by
Software Education Australia

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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;
- ▶ the Risks and Benefits for testing going the "Agile" way, with hints and tips for maximising the Testing effort.

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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.org/>

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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

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How Do We Traditionally Develop?

 How we currently spend our time:

- Analysis 16%
- Design 17%
- Code/Unit Test 34%
- System/Integration Test 18%
- Documentation 8%
- Implementation/Install 7%

<http://www.wrytradesman.com/articles/IntroToAgileMethods.pdf>

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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

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Agile Terms

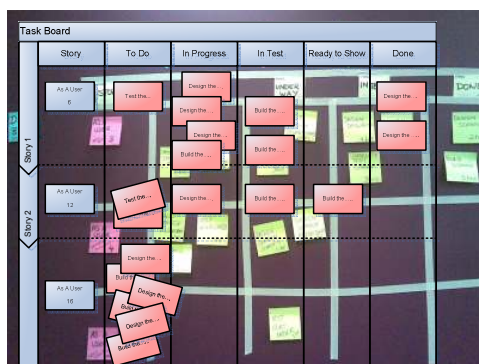
- ⚡ BVC
- ⚡ Feature / Story / Task
- ⚡ Points
- ⚡ Scrum or Stand-up
- ⚡ Story Wall / Kanban Chart / Task Board
- ⚡ Collaboration
- ⚡ Iteration / Sprint
- ⚡ Burn Down or Burn Up Chart

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Wall Ware

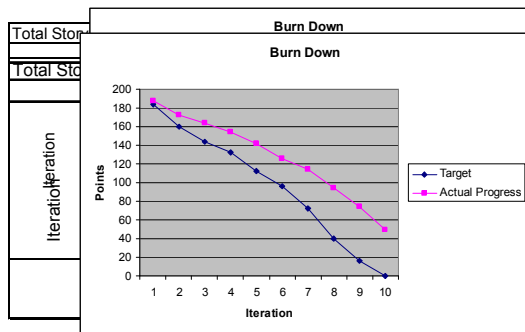


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Burn Down / Burn Up Chart



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What is Agile Testing?



“Traditional” Testing

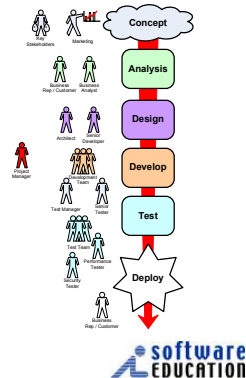
- The aim of testing is to provide information about the system under test
- Testing is about reporting on the level of confidence we have in the quality of the system
- Based on “How will we know?”
- Focus on ensuring “Requirements” are met
- Focus on results of tests
- Focus on coverage and defect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

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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

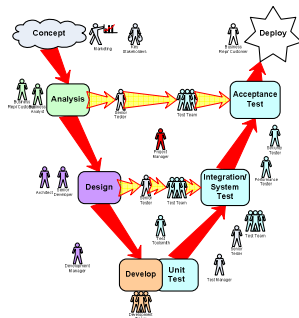


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“V Model” Testing

- 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

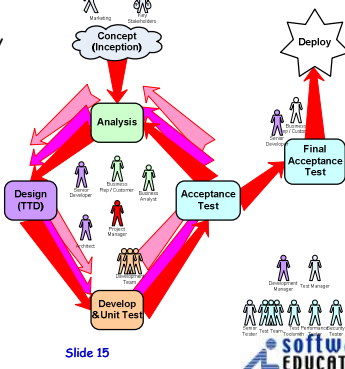


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Agile Testing - early years!

- 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??

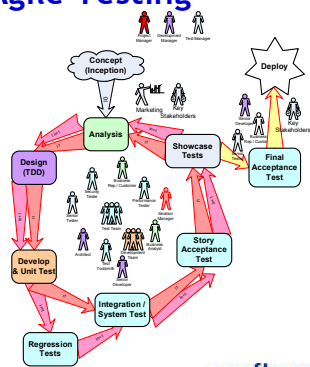


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“Real” Agile Testing

- ⚡ 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

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- ⚡ Iteration Manager
- ⚡ Showcase Tester

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Agile Risks

Risks in the Agile Approach

Risk	Solution
Unrealistic Agile Expectations (no documents, cheaper, easier, anyone can do it, "will solve all our IT problems").	Education - at all levels...Key Stakeholders through to Development.
Focus on traditional "Fixed Price" delivery - concern about Agile budgets. Agile costs more.	Understand that Agile has difficulty estimating total scope, thus total cost. Focus on improved quality in Agile products.
Focus on traditional "Fixed Date" delivery - concern about Agile timelines. Agile takes longer.	Understand that Agile has difficulty estimating total time, but focuses on getting "something that works" out to the business sooner!

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Risks in the Agile Approach

Risk	Solution
Requirements changing.	Acceptance of change - that is what Agile is about. Clear understanding of the features and stories by the entire team.
No documentation.	Early team involvement in meetings, Wall ware - all can see it. "Just Enough" documentation.
Testers not involved early in iteration lack of knowledge of testing - using Exploratory Testing.	Automated unit tests. Skilled testers using Exploratory Testing.

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Risks in the Agile Approach

Risk	Solution
Little or no unit testing.	Education of developers, experience and team maturity.
REGRESSION!	More unit testing - with tester involvement, more points allocated to testing. Provision for Smoke Tests
No clear definition of "Done" - Burn charts not accurate.	Regular involvement of and reporting to the Business.

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Fragile Agile?

⚡ The BIGGEST Risk....That makes AGILE into FRAGILE...

Immature Teams!!

⚡ You see this with no communication between the team members, no documentation (not even wall ware, Regression, infighting, territory marking, exclusion of testers, business users or the key stakeholders

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Solution?

- ⚡ 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

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Agile Benefits

Benefits of Agile

- ⚡ Early delivery of working software
- ⚡ Quality is built into the products - everyone involved in quality
- ⚡ Defect prevention (stopping them from getting beyond the requirements)
- ⚡ Clear acceptance criteria
- ⚡ Early involvement of all key players
- ⚡ No surprises to the business on delivery

Benefits of Agile

- ⚡ Growth of (test) team skills
- ⚡ Regression averse - more testing than ever
- ⚡ Risk based approach to development - the most important bits are done first
- ⚡ Good collaboration - knowledge of project status, outcomes and progress is clearly and honestly displayed for all to see
- ⚡ Less "formal" defects

Questions or Comments?

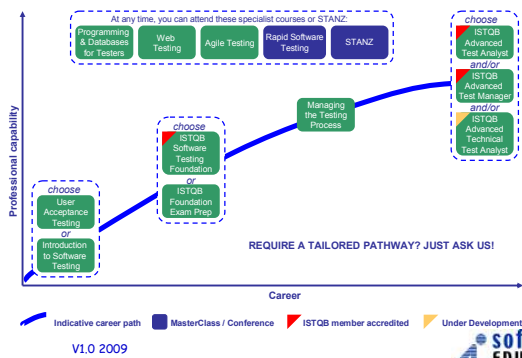


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What's Next?



Agile Week

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
PRACTICES OF AGILE TEAMS		AGILE REQUIREMENTS – STORIES	AGILE ESTIMATION & RELEASE PLANNING	
Business Analyst				
Team Leader / Iteration Manager / Scrum Master				
Business Representative / Product Owner			Project Manager	
Developer			AGILE TESTING	
Software Tester				
Manager*	AGILE PROJECT MANAGEMENT		AGILE PROGRAMMING TECHNIQUES	
Project Manager			Developer	

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