



**SOGETI**

# Individuals and Interactions over processes and tools

*Presentation to SoftTest – 1<sup>st</sup> October, 2009*

*Ken Brennock, Sogeti Ireland*



## Introduction

- Ken Brennock
- Director of Technology & Principal Consultant



**SOGETI**

## Presentation Objectives

- Automation in Agile
  - > What are the essential tools?
  - > Where should you start automation?
- Do's and Don'ts
  - > My lessons learned
  - > Feel free to share!
- Questions

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## Before We Start...

- Is everybody using an Agile process?
- Who is considering moving to Agile?
- What automation are you currently using?
- What are your typical issues?



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## Agile Manifesto

"We are uncovering better ways of developing software by doing it and helping others do it. Through this work we have come to value:

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

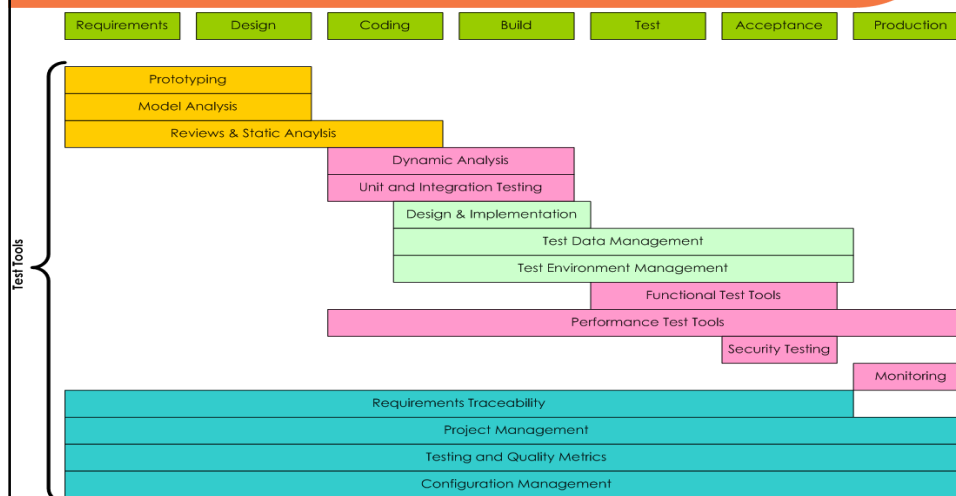
"That is, while there is value in the items on the right, we value the items on the left more."

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## Automation thought-out the Lifecycle

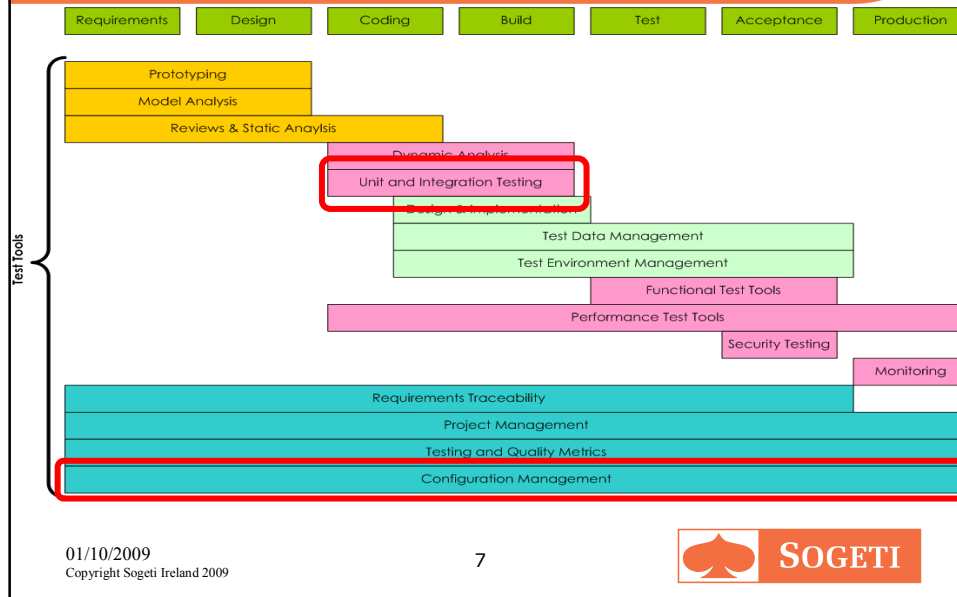


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## What To Expect...



## What To Expect...

- **Configuration Management**
  - > Clearcase, CVS, VSS, Subversion, MS Team Foundation Studio
- **Build and Integration Tool**
  - > Ant, Maven
  - > CruiseControl, MS Team Foundation Studio
- **Unit Test Tools**
  - > Xunit
  - > Part of most IDE
  - > Test Driven Development



## Do's and Don'ts

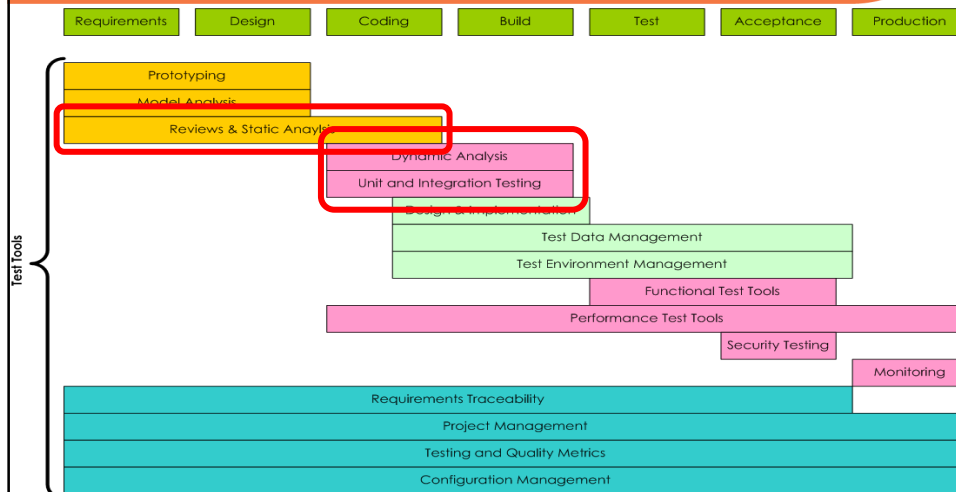
- Do's
  - > Ensure your team are trained how to use Configuration Management, Build Integration and XUnit correctly
  - > Ensure the tool meets your teams requirements – remote access, security, reporting etc
  - > Measure the amount of testing (Coverage)
  - > Remember why automation is important
- Don't
  - > Rush into tool introduction
  - > Always go with the free tool

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## What is Missing



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## What's Missing...

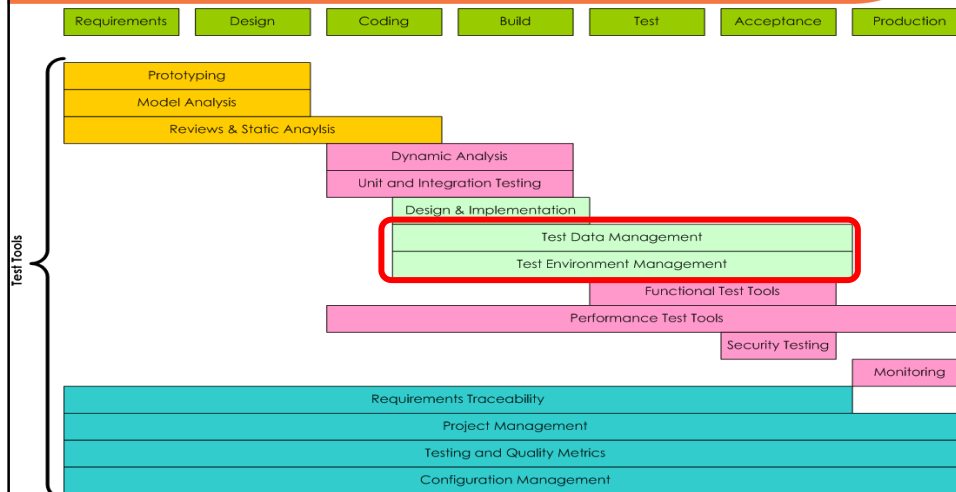
- **Static Analysis**
  - > CheckStyle, CMT++, LDRA Testbed, DevPartner Studio
- **Dynamic Analysis Tools**
  - > IBM Rational Purify, DevPartner Studio
- **Coverage Tools**
  - > PureCoverage, CTC++, Cobertura

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## What's Next...



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## What's Next...

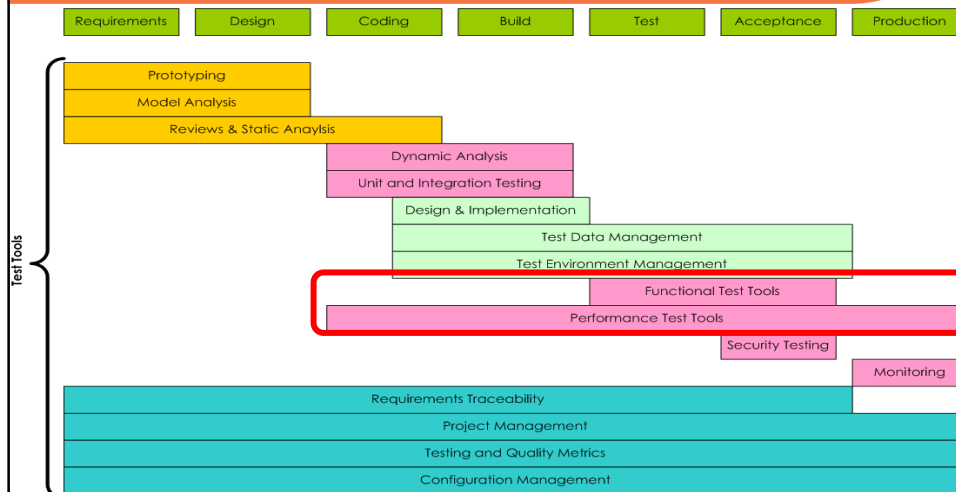
- Data Management
  - > Perl, Python, Shell Scripting
- Environment Management
  - > Ghosting, VMware

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## Ultimate Aim...

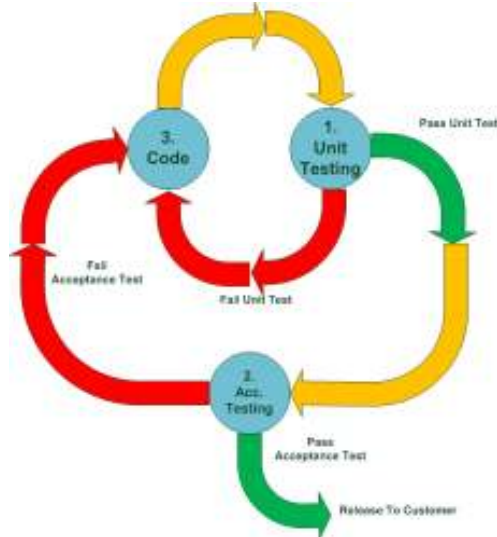


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## Agile Test Cycle



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## Ultimate Aim...

- **Functional Testing**
  - > HP Quick Test Prof, Compuware TestPartner, Borland SilkTester, IBM FunctionalTester
  - > Selenium,
  - > FitNess - Framework tool based on Junit, Functional testing though the UI
- **Non-Functional Testing**
  - > HP LoadRunner, Compuware QA Load, Borland SilkPerformer, IBM Rational Performance Tester
  - > JMeter, Grinder, OpenSTA

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# Ultimate Aim...

Test Results

Assertions: 0 right, 1 wrong, 0 ignored, 0 exceptions

AN EXAMPLE HAT TEST

In Python, tests are expressed as tables of input data and expected output data.

owner	vba	type	create?	approve?	price?
0	0	0	True	False	0
Testert	0	Top Hat	True	False	0
ABCDEFGHIJKLMNPQRSTUWXYZ WWWWW	Top Hat	True	ABCDEFGHIJKLMNPQRSTUWXYZ WWWWW		

In the role of Python test table (ColumnPython), each row represents a complete scenario of example inputs and outputs. Here, the "owner", "vba" and "type" columns are for inputs, and the question mark in the "create?" and "approve?" column tells Python that this is our column of expected outputs.

Notice on the first row, the owner, vba and type should set up the owner to be Testert. Therefore this test should fail as in this test the expected result is Testt.

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# Ultimate Aim...

Test Results

Assertions: 0 right, 1 wrong, 0 ignored, 0 exceptions

AN EXAMPLE HAT TEST

In Python, tests are expressed as tables of input data and expected output data.

owner	vba	type	create?	approve?	price?
0	0	0	True	Testert	0
Testert	0	Top Hat	True	Testert	0
ABCDEFGHIJKLMNPQRSTUWXYZ WWWWW	Top Hat	True	ABCDEFGHIJKLMNPQRSTUWXYZ WWWWW		

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## Ultimate Aim...



**HatExample**

**AN EXAMPLE HAT TEST**

filepath: C:\Documents and Settings\kian@sogeti.com\workspace\hatTest

In **FitNesse**, tests are expressed as tables of input data and expected output data.

fitnatest						
owner	size	type	create?	getowner?	getsize?	
0	0	0	True	Tester1	0	
Tester1	3	Top Hat	True	Tester1	3	
ABCDEFGHIJKLMNPQRSTUVWXYZ	999999999	Top Hat	True	ABCDEFGHIJKLMNPQRSTUVWXYZ	999999999	
ABCDEFGHIJKLMNPQRSTUVWXYZ	99.9999999	Top Hat	True	ABCDEFGHIJKLMNPQRSTUVWXYZ	99.9999999	

In this style of **FitNesse** test table (**ColumnsFormat**), each row represents a complete scenario of example inputs and outputs. "type" columns are for inputs, and the question mark in the "create?" and "getowner?" columns tells **FitNesse** that this is a **Table**.

Notice on the first row, the owner, size and type should not set up the owner to be Tester1. Therefore this test should fail in **Table**.

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## Do's and Don'ts

- **Do's**
  - > Be clear what open source will provide versus a commercial tool
  - > Allow time for the scripts to stabilise
  - > Expect the scripts to change
  - > Build a framework from the start
- **Don't**
  - > Expect the automation scripts to be in step with your system
  - > Forget to use testing techniques for measuring your testing

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## Not Discussed...

- Defect Management
  - > HP Quality Centre
  - > JIRA, Bugzilla
- Test Management
  - > HP Quality Centre, XPlanner, Test Link

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## XPlanner - Demo

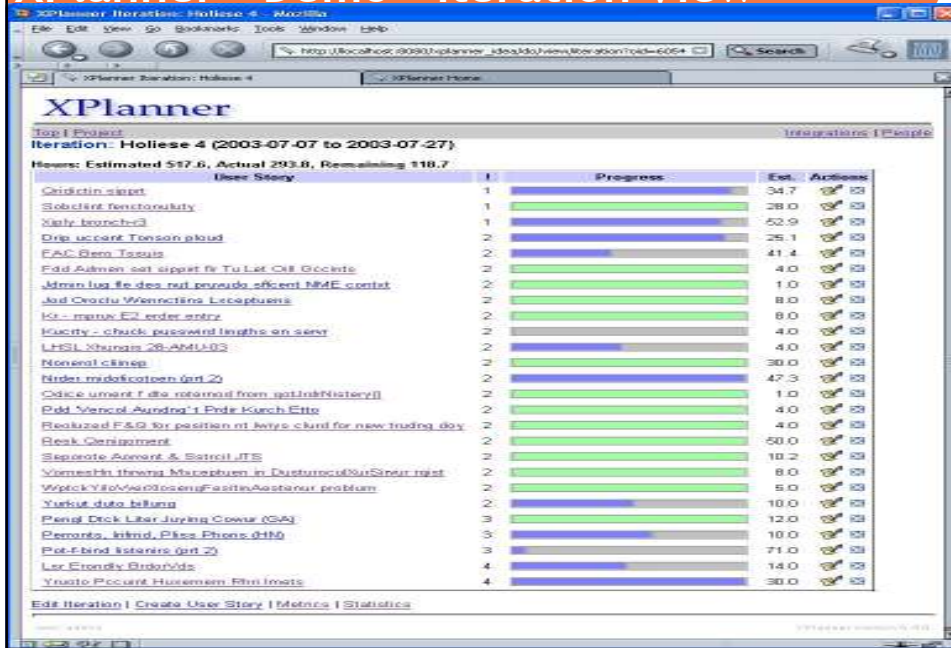
The screenshot displays the XPlanner web interface. The top section shows a project overview with a Gantt chart and a table of tasks. The bottom section shows a detailed view of a task, including a description, acceptance criteria, and a list of resources with their availability and utilization.

From: Marcus McCarthy, LeT Systems Case Study, EI seminar, Cork 2005

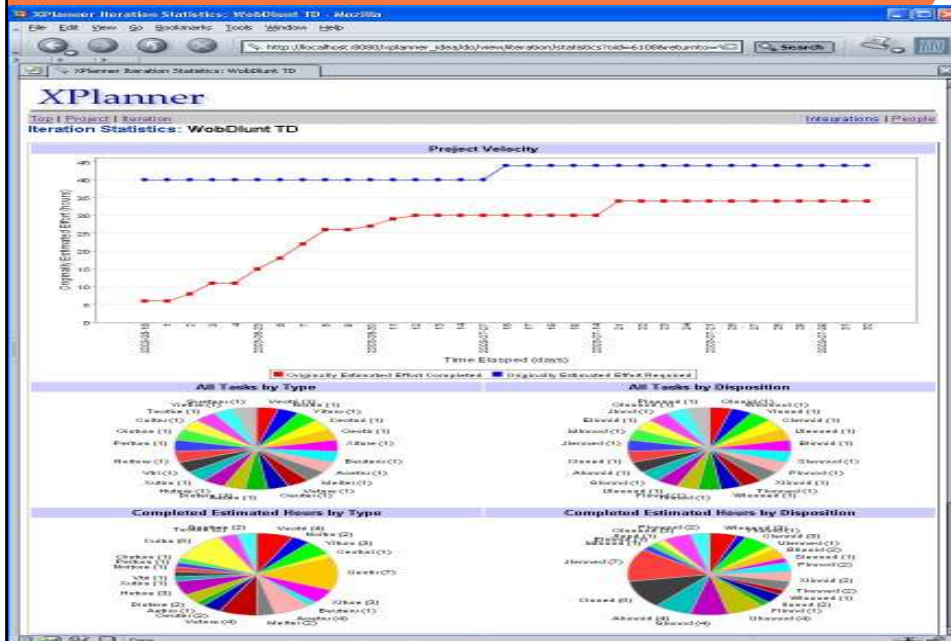
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# XPlanner - Demo - Iteration View



# XPlanner - Demo - Metrics



## Lessons Learned

- Don't learn the tool on a projects time
- Open Source tools will go so far, but always ended up using commercial tools
  - > Functional Testing
  - > Performance Testing
- Functional Testing with no UI can miss problems
- Keep the management tools easy to use
- Defect Management becomes lighter

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## Order of Events

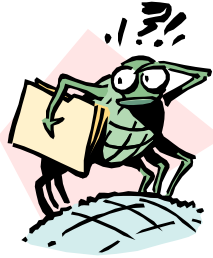
- Configuration Management
- Build and Integration Process
- Unit Testing
- Data and Test Environment Management
- Measure Unit Testing
- Functional Testing

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## Questions



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