



Julie Gardiner
Risk Based Test Strategy

Biografie:

Julie Gardiner is Principle Consultant at QST Consultants Ltd. She has over 12 years experience and first hand experience in the roles of test analyst, test team leader, test consultant and test manager and has successfully implemented risk-based testing approaches in many organisations. An enthusiastic and motivated presenter Julie is a regular speaker at software testing conferences including EuroSTAR, ICSTest and the BCS SIGIST and is England's Country Co-ordinator for EuroSTAR 2005

Risk Based Test Strategy

Presented by
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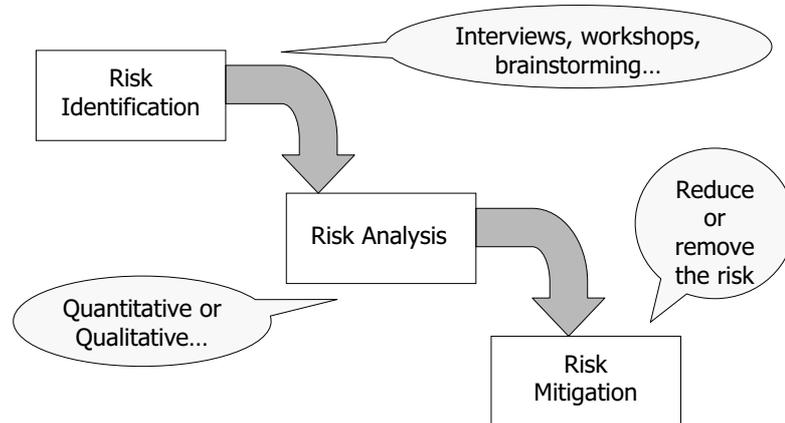
Misunderstandings managers have about RBT

- testing is always “risk-based” isn’t it?
- risk-based testing
 - is nothing more than prioritizing tests
 - is a once only activity
 - is a waste of time
 - will delay the project

‘Risk is something we have ~~solicitors~~ ^{lawyers} for...’ – CEO of a client company



Stages of Risk Management



Use of risk analysis in testing

- target where to test
 - e.g. performance, security, complex calculations
- prioritize testing
 - more testing in riskier areas of the system
- inform a release decision
 - the less testing, the greater the remaining risks



Approaches to Risk

- approaches from...
 - TMap
 - James Bach – Heuristic RBT
 - Paul Gerrard
- others...
 - Hans Schaefer
 - STEP Approach
 - Failure mode and effects analysis



TMap Approach

- background
- steps...
 - split subsystems into components/test units
 - determine probability of failure and damage to organisation for each test unit
 - determine risk level for each test unit
 - refine test specification techniques
 - group tests into priorities
- benefits



TMap example

	<i>Area of Risk</i>	<i>Probability of failure</i>	<i>Damage</i>	<i>Risk Score</i>
Ref	<i>System A</i>			
1	input account detail	10	10	100
2	validate input details	8	4	32
3	format Transaction	5	6	30
4	send Transaction	3	8	24
5	performance of validation	5	10	50



Adapted from : A guide to the TMap Approach – Martin Pol, Ruud Teunissen, Erik Van Veenendaal

Heuristic RBT

- background
- approaches
 - inside out
 - outside in
 - risk/Task Matrix
- benefits



Risk List

component	risk	risk heuristic
printing	normal	popular, distributed
report generation	higher	new, strategic, third party, complex, critical
installation	lower	popular, usability, changed
clip art library	lower	complex



Source: Article: Risk Based Testing – James Bach

Paul Gerrard

- background
- stages
 - risk identification
 - analysis
 - test effectiveness
 - test priority number
- benefits



Risk Analysis and Test Effectiveness scores

ID	Risk	Probability	Consequence	Exposure	Test Effectiveness	Test Priority no.
13	Spelling mistakes on web pages may irritate users and damage our credibility	5	4	20	5	100
60	Changes to existing infrastructure may be faulty and cause the new application to fail	4	4	16	4	64



Source: Risk based E-business Testing – Paul Gerrard & Neil Thompson

Vital areas to consider when choosing your approach

- development methodology
 - Traditional versus Agile
- organizational culture
- project goals/influences
- level when assessing risk
- time

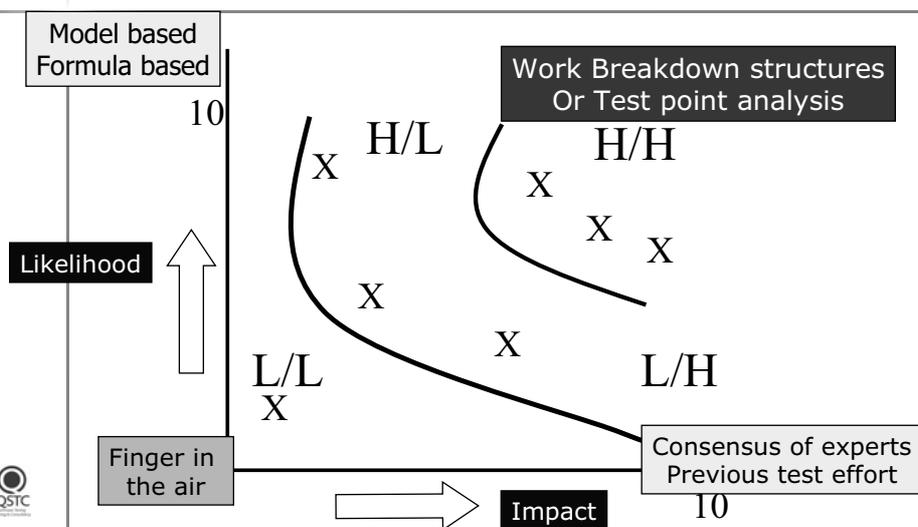


Test strategy

- overall approach to testing
 - risk management process
 - techniques to be used
 - roles & responsibilities
- communicate the test strategy
 - sign off of the test strategy
 - publicise new approach – road show, seminars etc
 - put procedure on intranet
- keep up to date

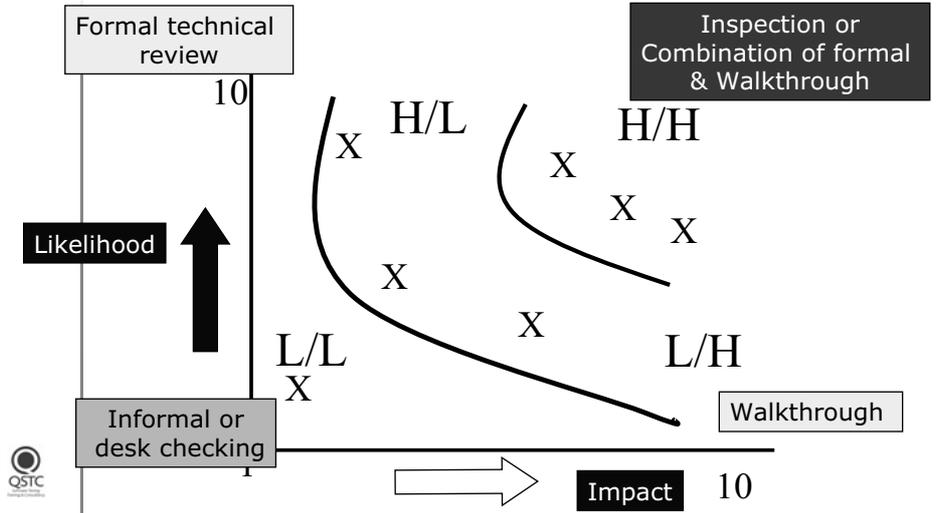


Estimation techniques

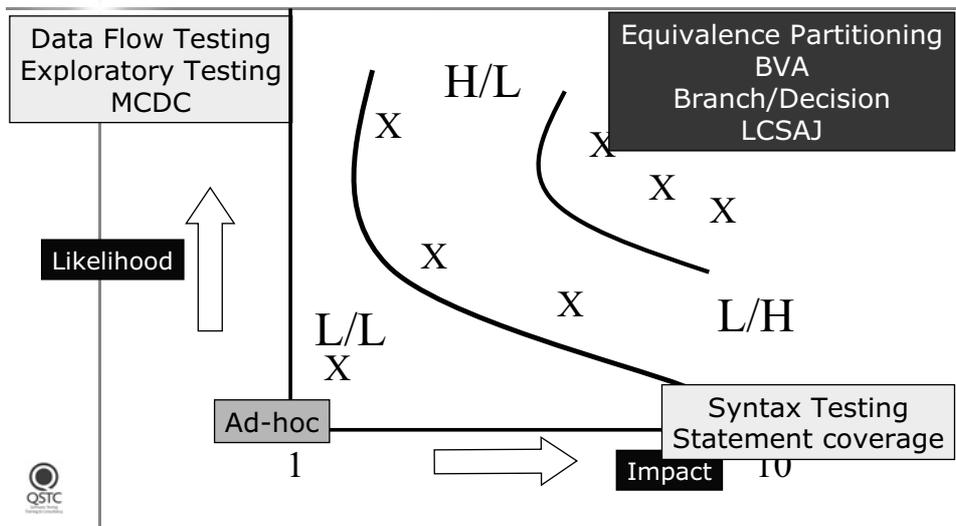


Static test techniques

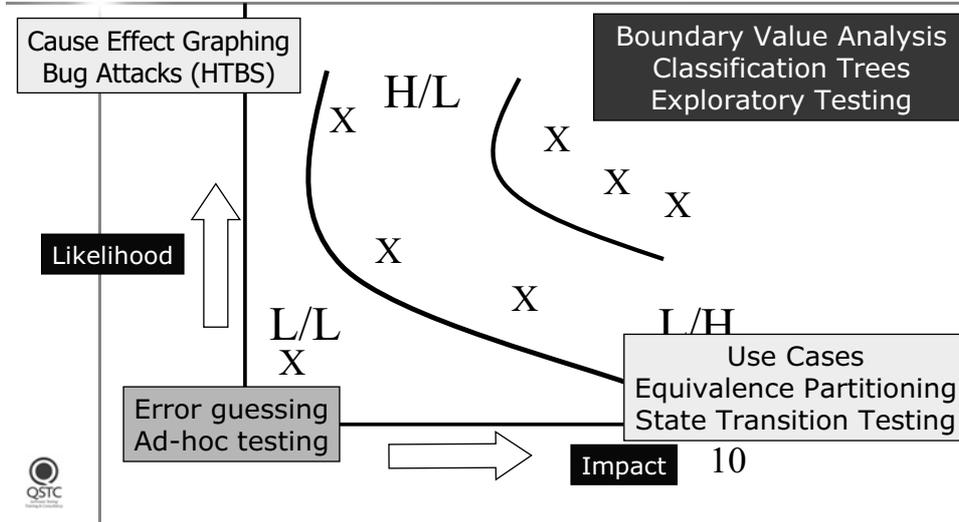
Importance of document / code



Unit & integration test techniques

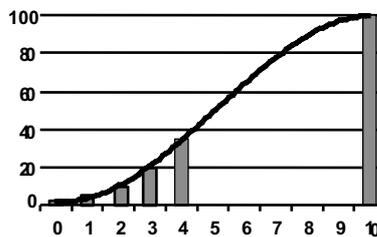


System & acceptance testing techniques

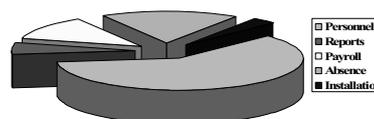


Monitoring & Metrics

■ S-Curves



■ Faults found per function/application



Requirement Based reporting

Use Case ref.

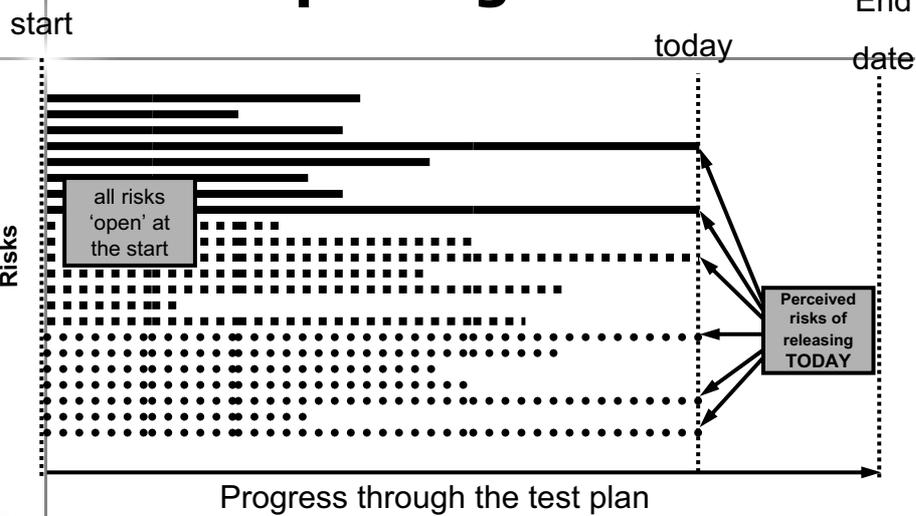
Tests

	2.1	2.2	2.3	2.4	2.5	2.6	2.7	Risk	Progress	Comments
5.1					X	X				
5.2				X						
5.3	X									
5.4										
5.5			X							
5.6	X						X			

Summary
% Tests run
% Tests passed

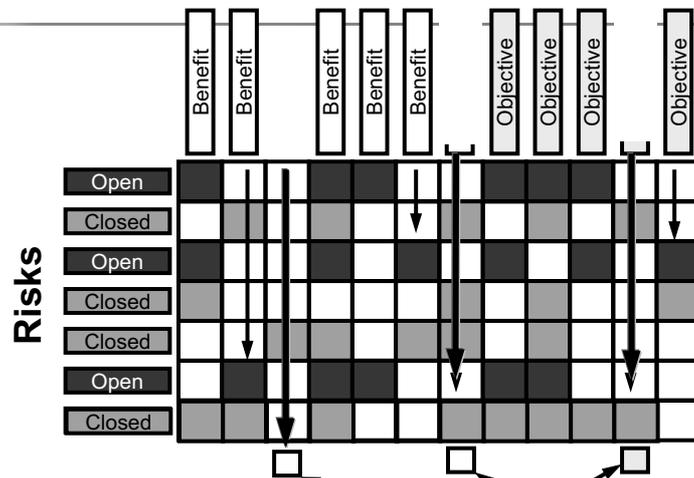


Test Reporting



Source: Paul Gerrard, Risk Based Test Reporting

Benefit Based reporting



Source: Paul Gerrard

Benefits available for release

How to implement the strategy

- get consensus on approach to directly affected parties
- publicise the approach
- road shows/presentations
- support the implementation
- conduct retrospective of risk process after each project



Typical reasons for RBT failing in Organizations

- people issues
 - perception of risk
 - testers mindset
- test team performing the risk assessment in isolation to project team
- typical risks become the 'norm'
- risk register not kept up to date
- product & project risk not treated differently

Benefits that have been achieved

- more informed decision making by senior management
 - more time for testing
- raising profile & visibility of testing
 - morale of test team increased
- greater collaboration between development & testing
 - incident reporting & resolution



Remember this quote?

lawyers
'risk is something we have ~~solicitors~~ for...'

'thank you for all adopting risk based testing...we now see the benefit of testing and only talk about testing in terms of reducing risk.'



To summarise

- there are many approaches to risk based testing - choose the right one for you
- publicise the approach & results
- understand the misconceptions and avoid the typical problems
- make sure you gain consensus and support the implementation



Thank you!

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