



A TECHWELL EVENT

T24

Test Strategy, Planning, Metrics

Thursday, October 4th, 2018 3:00 PM

Risk Based Testing “ Are You Talking the Talk, Or Walking the Walk?”

Presented by:

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Gitte Ottosen

Gitte Ottosen is a Test Manager and Test Coach at Capgemini-Sogeti Denmark. As a career tester, Gitte has more than 20 years of experience in test engineering and test management, in both traditional and agile contexts. She has worked with test process improvement; first as a test architect/manager in Systematic and more recently as a test coach for a number of large private and public companies in Denmark. As a self-confessed test evangelist who preaches the need for a structured and committed approach to testing, Gitte is a strong advocate for a context-driven approach, a role requiring profound professional insight, passion, and persistence-qualities that Gitte holds in abundance. Gitte holds a number of certificates within testing as well as agile; ISEB Practitioner, CAT, TMap Test Engineer and Certified SCRUM Master, SAFe SPC, and is a Fellow within SogetiLabs.

Risk Based Testing –Are you Talking the talk or walking the walk

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A bit about me

Background

Corporal in the Royal Danish Airforce

Certifications

SCRUM master, ISEB foundation/practitioner, CAT trainer, TMap Test Engineer, TMap Test Manager, TPI Next foundation, SAFe SPC

Focus

Test management, test engineering, SCRUM, process improvement, LEAN, agile, context driven test, change management

Experience

- 23 years in the IT business
- 6 years in Cappgemini Sogeti

Agile Experience

Systematic, Mærsk Line IT, DONG, KMD, TDC, Arla, BEC

Other

Fellow Sogeti Labs



More definitions



Product risk:

A risk directly relating to the test object

Project risk:

A risk relating to management and control of the (test) project, e.g. lack of resources, deadlines, changed requirements etc.



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Sometimes we see...

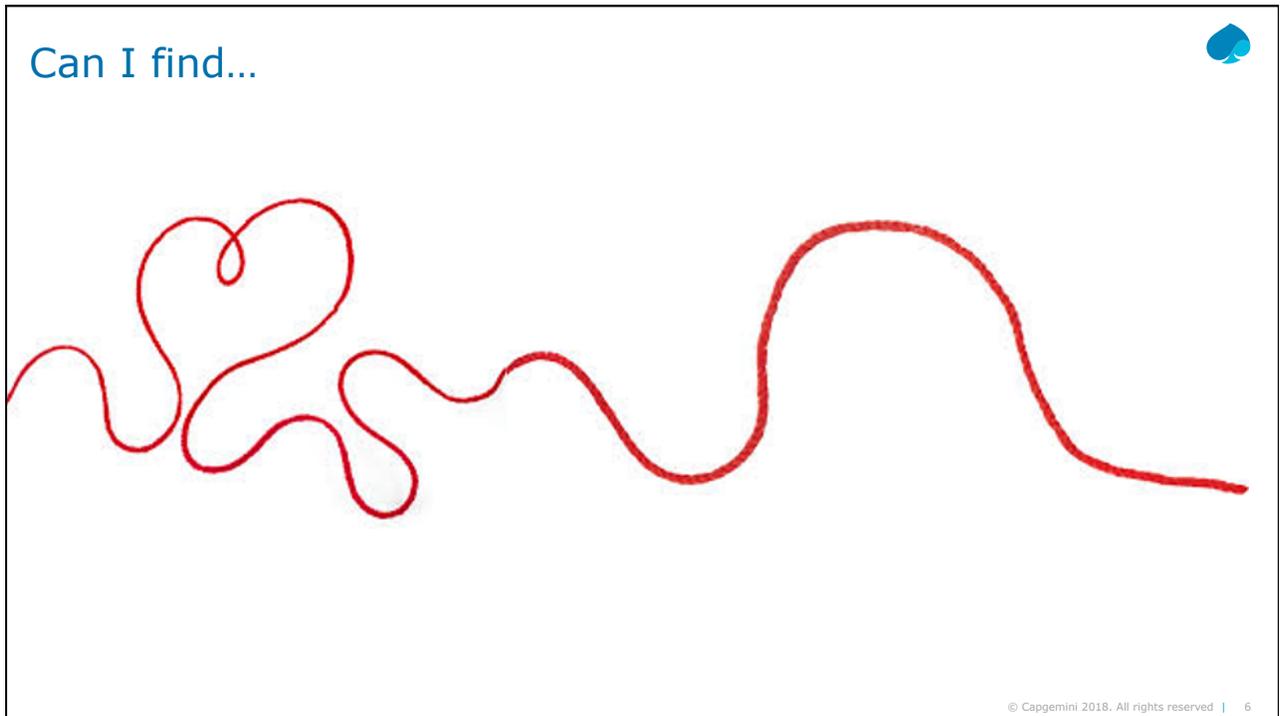


“Test in this project is based on a risk based test strategy”

“we are doing risk based testing”

“We are basing our test activities on a risk based approach”





The Challenge

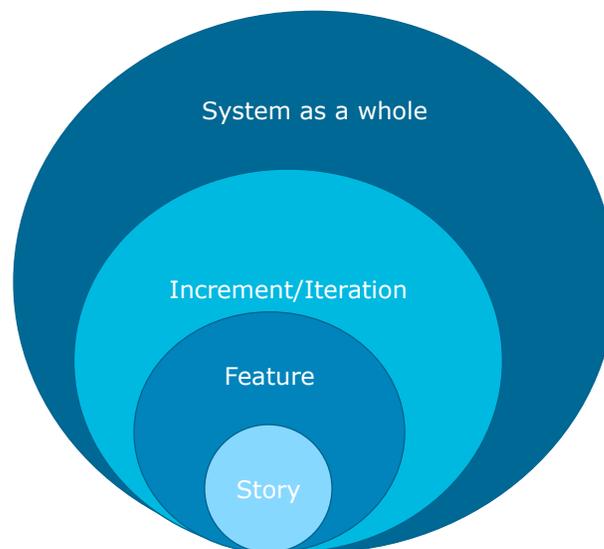


Out of an almost infinite range of test conditions and combinations of conditions that can be met:

- Should the test group select a limited set of conditions
- Determine and assign an appropriate effort to cover each condition with test cases
- Prioritize the order of test cases in a manner that optimizes the suitability and effectiveness of the test work to be performed.

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Risk at Different Levels



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A "Classical" Product Risk Analysis



1. Identify stakeholders
2. Define scope
3. Define relevant characteristics per test goal
4. Evaluate consequence for each combination of test goals and characteristics
5. Evaluate the probability of errors for each combination of test goals and characteristics
6. Determine the risk class for each combination of test goals and characteristics
7. Document Risk Table in master test plan



Risk Classification Matrix - Example



Risk Classification (A, B, C)		Probability		
		High	Medium	Low
Impact	High	A	B	B
	Medium	B	B	C
	Low	C	C	C

Identify risk class(PRA)



Test goal	Characteristic	Impact	Prob.	Risk Class
1.1 payment flow works as described	Functionality	H	H	A
	User-friendliness	M	L	C
1.2 Payment methods accepted	Functionality	M	M	B
	Security	H	M	B
1.3 Sale traceable	Functionality	M	L	C
2.1 Tickets printed fast and easily	Performance	M	L	C
2.2 Prizes are found fast	Performance	L	L	C
2.3 FO application works as intended	Functionality	M	M	B
	Suitability	M	M	B
..

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Strategy Tabel



Test Goal	RC	Eval	UT	ST	UAT	PAT
Functionality						
1.1 payment flow works as described	A	•	••	•••	••	
1.2 Payment methods accepted	B	•	•	••	I	
1.3 Sales are traceable	C			•	•	•
2.3 Advantage program as described	B	•	•	••	•	
Usability						
1.1 payment flow works as described	C	•			•	
Performance						
2.1 Tickets are printed within specified time	C			•		•
2.2 Invoices are displayed within specified time	C					•
Security						
1.2 Payment methods accepted	B			S	•	••
Suitability						
2.3 Advantage program as described	B	•			••	

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Assigning Test Design Techniques



Test goal	RC	UAT	Comments	Technique
Functionality				
1.1 payment flow works as described	A	•	Functional test	DCoT – EP
1.2 Payment methods accepted	B	I	Implicit with 1.1	-
1.3 Sales are traceable	C	•	Functional test	DCoT – EP
2.3 Advantage program as described	B	••	Functional test	ECT – MCDC
Usability				
1.1 Payment flow work as described	C	•	Usability test	Syn- checklist
Performance				
2.1 Tickets are printed within specified time	C		Real-life test	-
2.2 Invoices are displayed within specified time	C		Real-life test	-
Security				
1.2 Payment methods accepted	B	•	Security tester	Checklist, EG
Suitability				
2.3 Advantage program as described	B	•	Process test	PCT

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So What if my Testers Don't Know Test Techniques?



Risk class A.

- Unit test coverage of at least 80% ZZZ coverage
- Test both primary and secondary new functionalities
- Negative as well as positive test
- Full regression testing of affected functionality

Risk class B

- Unit test coverage of at least 60% XXX coverage
- Test both primary and secondary functionalities
- Regression test of affected primary functionality

Risk class C

- Unit test coverage of at least 30% YYY coverage
- Test of main scenarios

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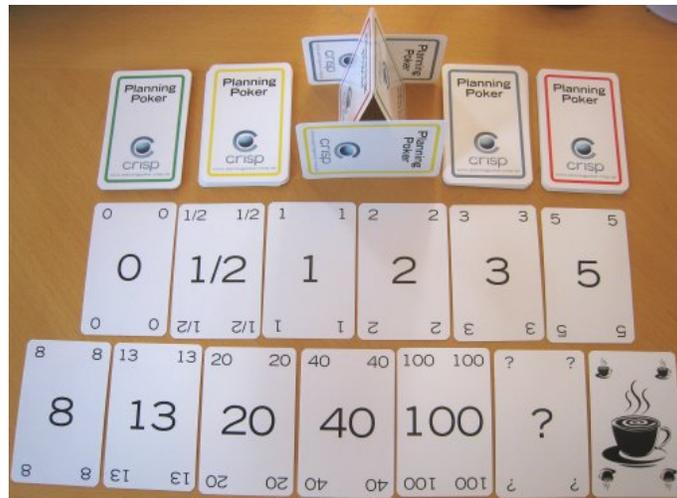
But we are agile.....



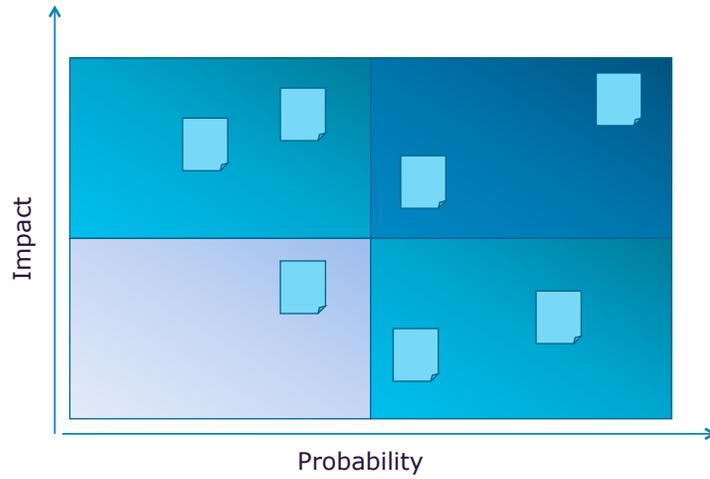
Test goal	Characteristica	Impact	Probabilty	Risk class
User story 1	Functionality	3	2	6
	Usability	2	2	4
User story 2	Functionality	3	3	9
	Security	3	1	3
User story 3	Functionality	2	1	2
User story 4	Performance	3	3	9



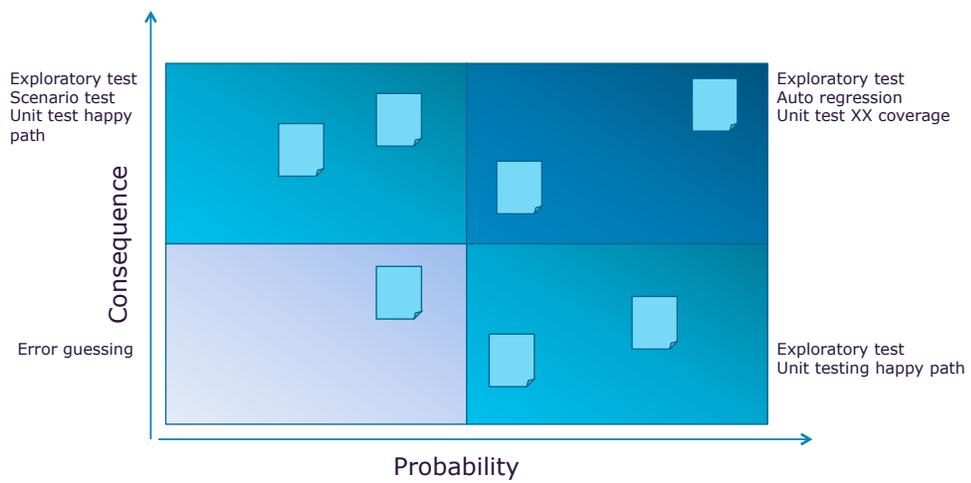
Risk Poker



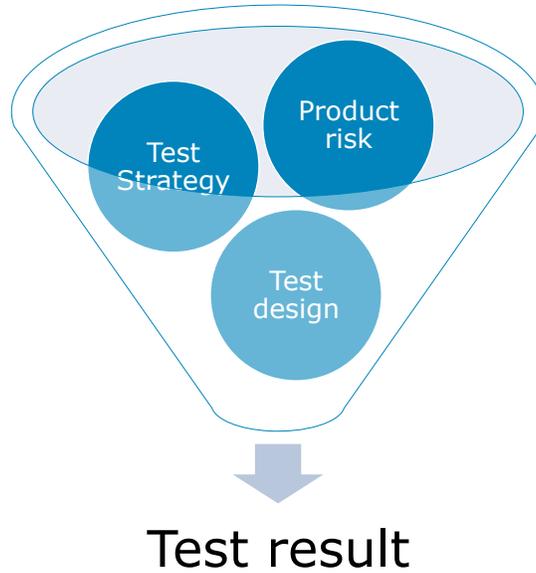
Risk overview



Test Strategy



From Risk to Test Result



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Risk Based Reporting

Product risk	Start	Week 1	Week 2	Week 3
Risk 01	High	Medium	Medium	Low
Risk 02	High	High	High	Medium
Risk 03	High	High	High	Medium
Risk 04	Medium	Medium	Low	Low

Product risk area	Defects	Planned test	Exe. test	% exe. test	% Succes
Risk 01	34	230	112	49%	60%
Risk 02	12	64	35	55%	71%
Risk 03	9	143	49	34%	80%
Risk 04	7	125	79	63%	84%
Totals:	82	562	255	45%	69%

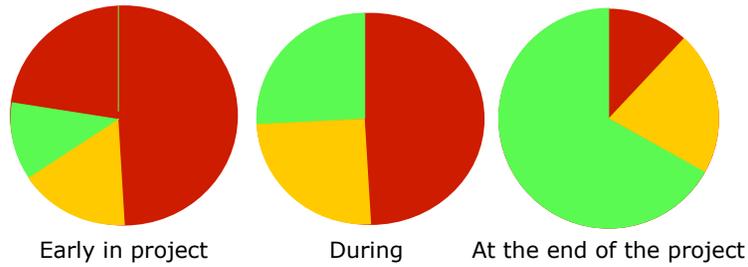
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Risk communicated with pie chart

Risk in three segments

- Depending on status of test identified to mitigate the risk

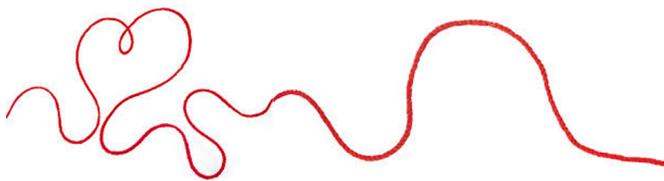
- Some or all tests are not executed, no defects to fix
- One or more test failed, one or more defects to fix
- All test passed, no defects to fix



Source: Rex Black "Advanced Software Testing Vol. 2"

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Conclusion



Product risk	Start	Week 1	Week 2	Week 3
Risk 01	High	Medium	Medium	Low
Risk 02	High	High	High	Medium
Risk 03	High	High	High	Medium
Risk 04	Medium	Medium	Low	Low



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