
Risk - Is this the Centre of Our Universe?

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Legal & General Assurance Society

EuroSTAR

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Agenda

- Legal & General, a little background
- In testing what is Risk Reduction?
- What's the problem?
- How you could use risk in developing test cases/managing your workload.
- Conclusion.



**- Legal & General -
a little background**



- Life, Pensions, Investments, Housing Protection and General Insurance
- One of fastest growing financial institutions in the UK
- Q2 2001:
 - UK Life & Pensions up by 30%
 - New Fund Management business of £6 billion
 - £113 billion funds under management
 - £7.4 billion of mortgages arranged by intermediaries



In testing what is Risk Reduction?



Risk Reduction Definition

- >MSN search gives ‘Cancer risk reduction’**
- >BS7925-1 (Software Testing glossary) doesn’t mention risk at all !**

>A definition to work to:-

“The ability to assist in the risk mitigation process by identifying deviations from the requirements (faults) that materially effect the quality of the product”,

in other words Risk-based testing.



Risk-based testing is:-

According to James Bach....

- 1. Making a prioritised list of risks**
- 2. Performing testing that explores each risk**
- 3. As risks evaporate and new ones emerge, adjust your test effort to stay focused on the current crop.**



Risk based testing is not....

RISK MANAGEMENT -

this process supports and manages the identification and control of all project risks. Risk based testing may form part of the overall risk management plan for a project.

RISK ANALYSIS -

this is the study of identified risks, and the understanding of frequency and severity.

RISK MITIGATION -

this is the process by which risks are controlled/managed. Risk based testing will help identify the risks (faults) that a developer/analyst might mitigate (fix).



**Legal &
General**

What's the problem?



Recent quotes used by Web Project Managers when discussing testing:-

‘No room for workarounds’

‘No margin for error’

**We must talk to the Managers and the Stakeholders in
THEIR language of : Risks and Benefits**

Paul Gerrard - EuroSTAR 2000



There are two types of problems,

1. What we do....

- **Testers don't have risk based objectives set, they just work all hours.**
- **Managers unclear of impact of technical details that are presented to them:-**
 - **'there are 2 million tests we could do and we are doing only 10%, I need 6 months!!!'**
 - **'I need to run these last 30 tests before I am finished and can with confidence say we are OK!'**
 - **'Don't release yet I haven't finished testing!'**
 - **'You can go with it if you like, but I don't think it will work!'**
- **When risks are identified they are normally Project risks, not Product risks**



What is a Product risk?

- **lack of/unclear requirements**
- **misperforming functions**
- **quality**

Risks that can be valued by the Stakeholder, and are related directly to the Product that is to be delivered.



2. How we do it

- There is no publicly available end to end process
- Experts are still feeling their way
- Most books/papers are not easy to read or understand
 - None are read by those who we wish to influence
- Everyone has their view
 - Information to date gives evidence of what we must do, but not how

We need to use the output of the Risk Analysis to understand what must be done to achieve the correct quality product, and what can be done in the time available.



**How you could use risk in
developing test cases/
managing your workload?**

The silver bullet



1. Identify key players

- ➔ **Project Sponsor - the person holding the pay cheque!**
- ➔ **Main user - the person who will feel the pain if the software fails**
- ➔ **Project Manager – the person responsible for the quality of the delivered product**
- ➔ **Test Manager – the person responsible for the robustness of the testing and testing timescale**
- ➔ **At least one test analyst**
- ➔ **Application Under Test (AUT) Designer/Analyst**



2. Arrange workshop

**At initiation of project , or as soon
as is possible.**

Objectives

1. Common understanding of capacity in test team
2. Common understanding of risks
3. Definition of high level risks
4. Risk Rating (probability/impact) for each identified risk



3. Understand your Risk's

- Ensure there is a high level understanding of the Requirements**
- Agree your test estimation process**
- Agree how you will derive Probability of a fault**
- Agree how you will derive Impact of a fault**



■ Identify High level AUT functions

■ Agree Probability of a fault

Based on:-

experience of testing similar or related systems

experience of testing earlier versions of the same AUT

the users view of the AUT

the views of the analysts and designers of the AUT

the complexity of the AUT

■ Agree Impact of a fault

Based on:-

the business, safety, or security criticality of the AUT

the commercial/public visibility of the AUT



Project :- Launch of New Protection Product Range

Key Functions

High Level Function	Probability of fault	Impact of fault	Stakeholder/ Owner	Notes/Updates
Quotations	H	H	Gordan Smith	
New Business Processing	H	M	Virgil Jones	
Cash Receipts	M	H	Scott Mitchell	
Claims (Cancellation)	M	L	Alan Parker	
Claims (Death)	M	L	John Cuny	

Impact of faults

- H - Cannot function without
- M - Needed but has a manual workaround
- L - Not required for launch



Key Function details – Gordan Smith

Quotes

	Probability of fault	Impact of fault	Notes/Updates
Licenced User	H	H	
Screen layout	M	M	
Screen navigation	L	M	
Help screens	H	L	
Calculations correct	H	H	



Key Function details – Gordan Smith

Calculations correct

	Probability of fault	Impact of fault	Notes/Updates
Plan A	H	L	
Plan B	H	M	
Plan C	L	M	
Plan D	H	L	
Plan E	H	H	



5. How long will it take (managing test scope)?

Using the agreed 'testing estimation process',

- identify test density (test required for full coverage)
- time per test case (which should include retest time)

**** If no defined estimation process exists it is key that before the workshop takes place, a simple method is agreed.**



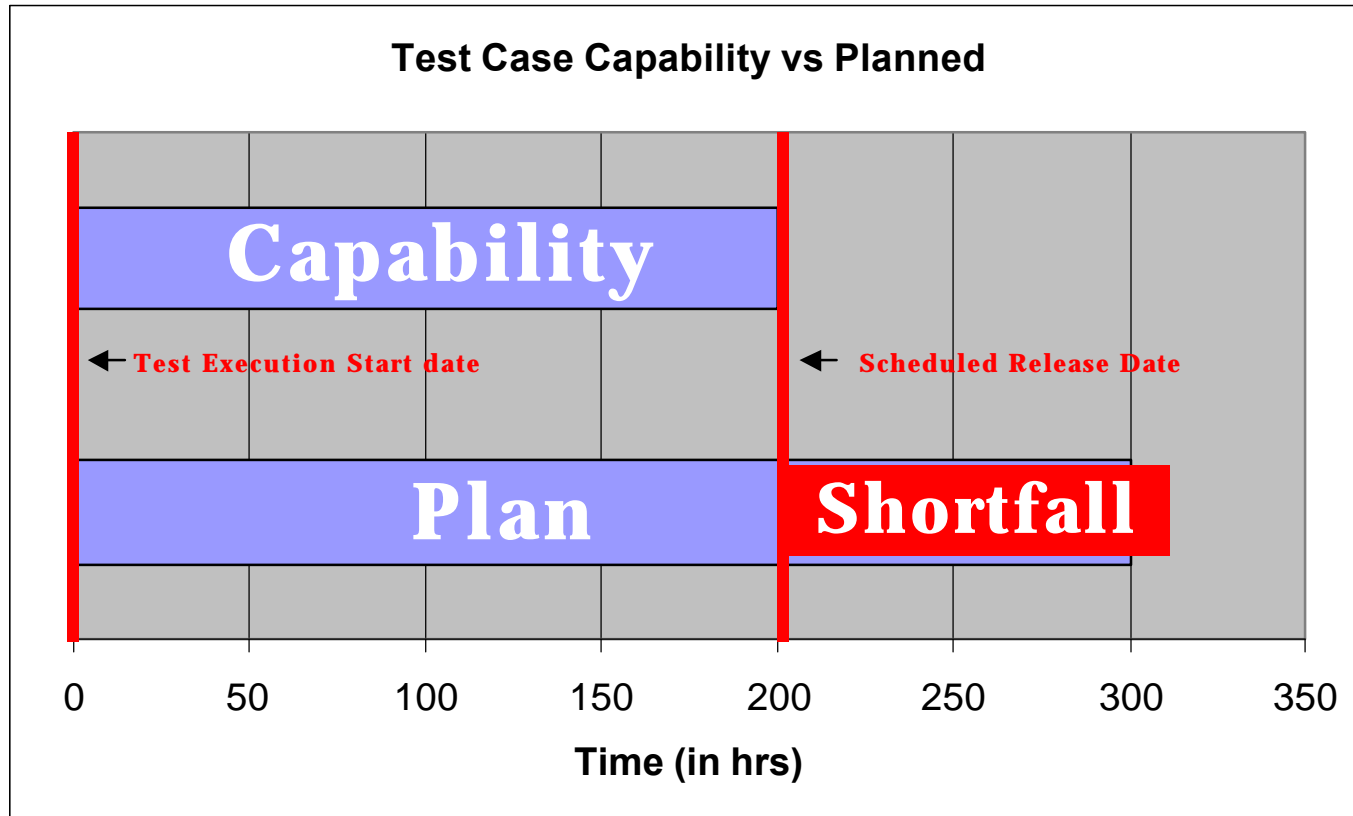
Test condition estimation

Function to be tested	Test condition req	Time per test case (Plan and execute)	Individual Total	Running Total
Plan E Calcs	20	20 mins	400 mins	400 mins
Plan B Calcs	5	40 mins	200 mins	600 mins
Etc.				
Etc.				



6. Review timescales / scope

With the data collected to date you can clearly demonstrate what can and cannot be completed



Legal &
General

With all of the information gathered to date all of the workshop attendees:-

- 1. Will have a common understanding of the actual Product risks.**
- 2. Agree, given the risk ratings, what MUST be tested**
- 3. Agree high level testing timescales**

This will enable:-

- 1. Testing objectives to be set correctly**
- 2. Focus to be placed on the right Test Conditions**
- 3. Information to be provided in an understood format**



Conclusion.....



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