Agile Risk Analysis & Management

AGRAM: a traceable risk approach without overloading Scrum

VALORI

AGRAM
just add 'a gram' to Scrum

Egbert Bouman, Valori
ISACA Square Table – feb 8th 2023

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About Valori and me

egbertbouman@valori.nl
Practice manager Agile Testing @Valori
Guild lead Testing & DevOps @DICTU

◎ 30 years Testen PLUS
  • Business Analysis
  • **Agile Testing**
  • Management

◎ Dedicated units
  • Tools & aut. testen
  • Code quality
  • Low code: Mendix, Pega, …

◎ Biggest independent test partner NL
  • 200 plus customers
  • 220 professionals

SmarTEST
GEAUTOMATISEERD SOFTWARE TESTEN

CRISC Certified in Risk and Information Systems Control
An ISACA Certification

Certified Agile Tester

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Our goal:

Bring risk analysis and risk management to agile / scrum, without making scrum heavier

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How the approach evolved

Bol.com, KPN Telecom, VGZ Insurance, Politie NL, ANWB, RABO bank, Ministry Economic Affairs

Since 2014 and beyond

- Valori experts & customer think tank
- Improved after workshop pilots (TestNet, …)

Sticking to existing Scrum practices

- Scrum guide (www.scrumguides.org)
- Widely accepted practices (Spikes, HIP, DoR, DoS)

Baptized AGRAM

- AGile Risk Analysis & Management
- Add just 'a gram' ☺ to the agile process (i.e. Scrum)

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Let's talk risks now
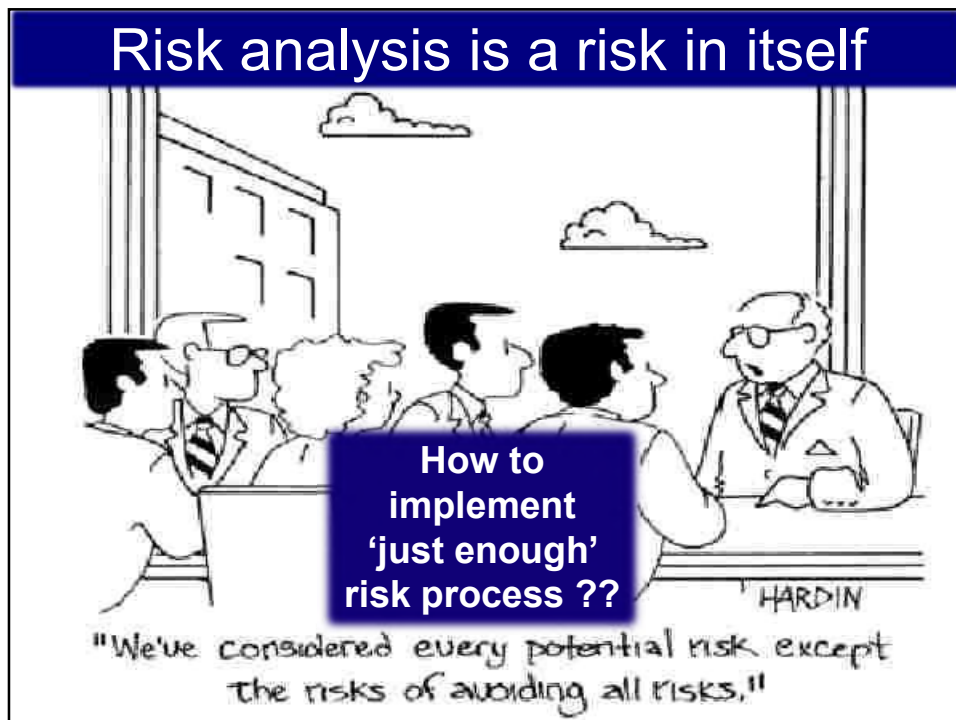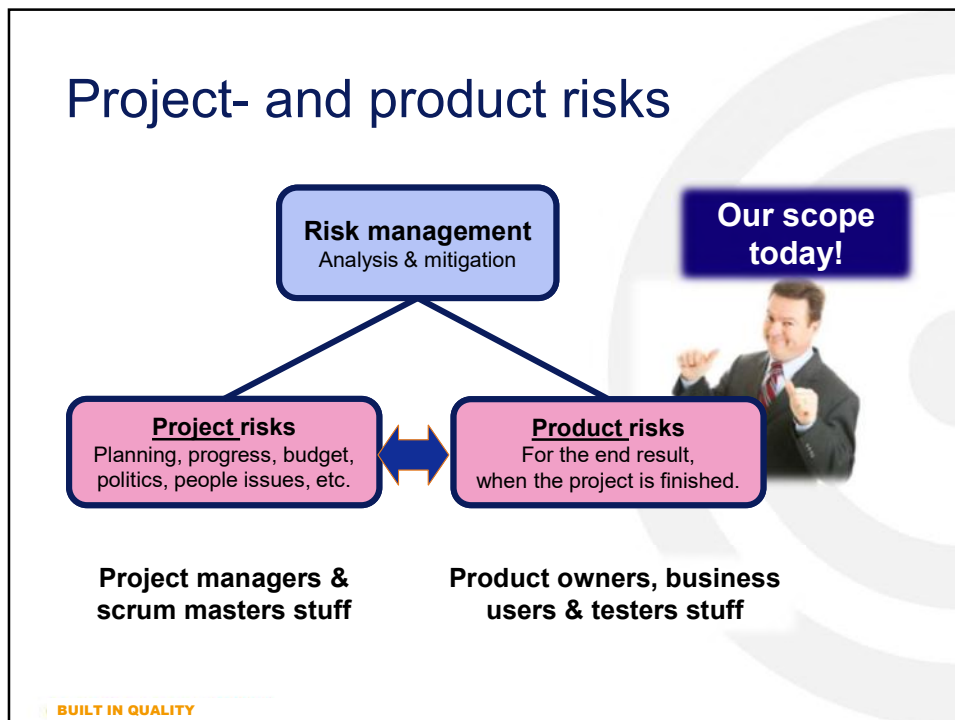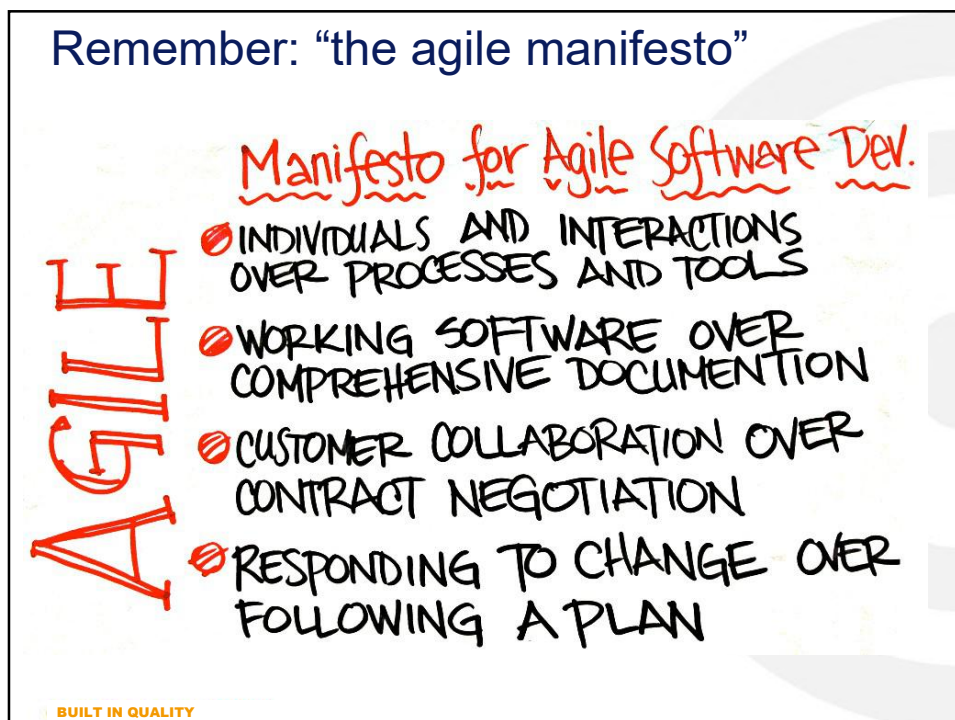
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Risks are weird creatures

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Looking at risks makes them evaporate

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(almost) every risk is manageable

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Project- and product risks

Risk management
Analysis & mitigation

Our scope today!

Project risks
Planning, progress, budget, politics, people issues, etc.

Product risks
For the end result, when the project is finished.

Project managers & scrum masters stuff

Product owners, business users & testers stuff

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Remember: "the agile manifesto"

Manifesto for Agile Software Dev.

AGILE

- INDIVIDUALS AND INTERACTIONS OVER PROCESSES AND TOOLS
- WORKING SOFTWARE OVER COMPREHENSIVE DOCUMENTION
- CUSTOMER COLLABORATION OVER CONTRACT NEGOTIATION
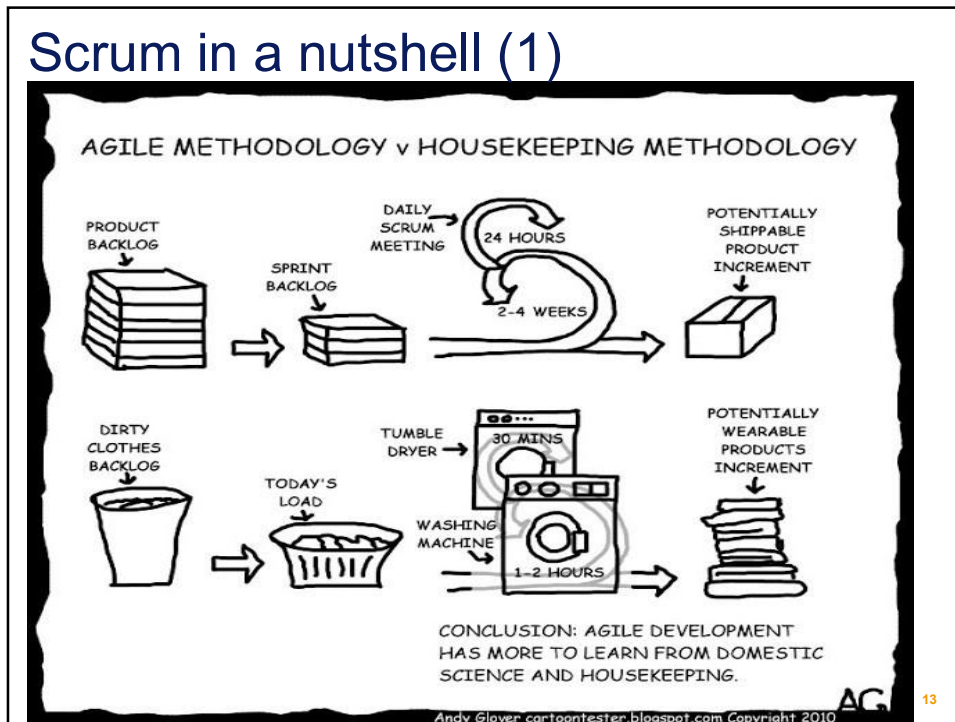- RESPONDING TO CHANGE OVER FOLLOWING A PLAN
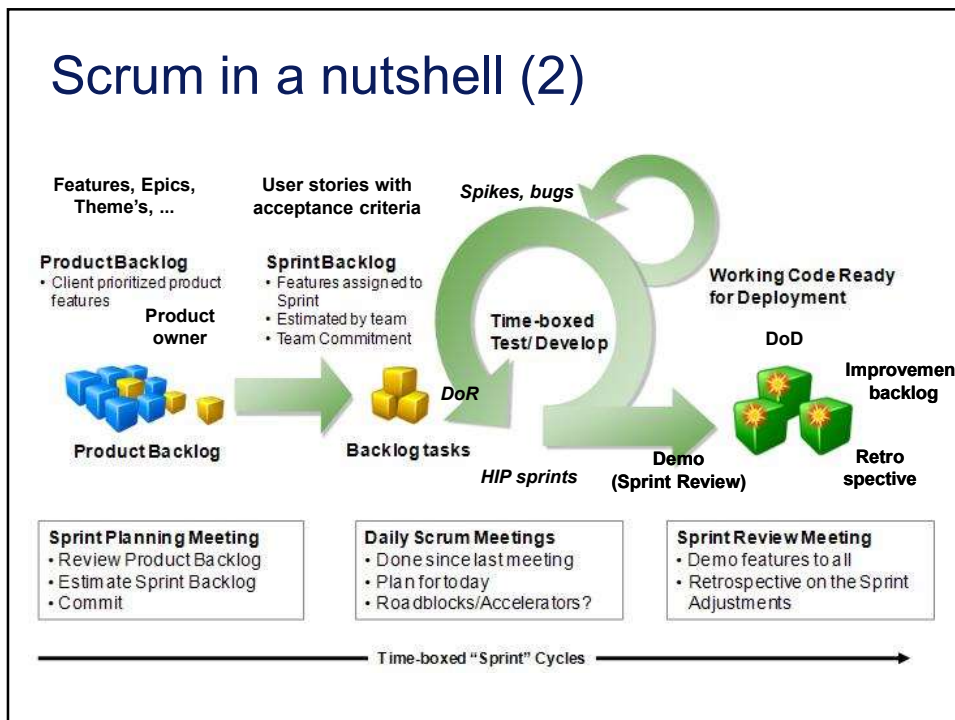
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Scrum in a nutshell (1)

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Scrum in a nutshell (2)

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From an agile forum

"Because we continuously look for what is blocking progress and **address those impediments immediately**, no potential risk that actually is occurring can go unnoticed for long. Furthermore, when we address them, we have far more current information about the situation than if when we would have pre-planned the response.

Therefore, explicitly listing those potential risks (most of which will never occur) and pre-planning what we would do about them would be a **big waste of time**"

I take this very serious, because risk management *may* be waste

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A bit less extreme…

A **lightweight risk log cannot hurt** - a simple list of impediments the Team, Product Owner and ScrumMaster anticipates only helps with visibility, trust and accountability.

I always think of the risk list and the **scrum master's todo list** *as being the same thing. You just need to make sure the non-functional items get in there somewhere.*

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How *explicit* must it be?

Scrum: risk management is *implicit*

- Scrum caters for timely risk elimination
- Even if you don't talk risks

Do we need a more *explicit* process?

- Scrumdamentalists: **no!**
- We: **sometimes no, often yes,** but just enough!

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Why explicit ?

Auditability & Compliance	• Internal and external auditors • Require a traceable risk approach
People around you expect it	• They stick to ~~...~~ processes **Value?** • PRINCE2, MSP, PMBOK
No risk, no test	• Testers don't move without risks. • And rightly so!
Stakeholders taken seriously	• Their 'risk appetite' should be leading • 'Your nightmare is ~~...~~ **Value!**
Because it makes you more complete	• Against tunnel vision and group think • Risks = pessimists requirements

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So, let's Scrum!

Let's assume that we:

- have serious risks
- want to address them in Scrum
- want it explicit & traceable
- want to add 'just a gram' to Scrum

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Case: SmartACCEPT 4.3

- A real project with real risks!!
- I am the product owner

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Case SmartACCEPT: four risks

1. Voice over	• *Voice over* with video is great, but: • May introduce technical complications
2. Back-up & restore	• May be insufficient • Technical and process
3. Simplicity	• The GUI may become too complicated • User experience erosion
4. Team velocity	• May decrease due to team disturbance • Because of operational 'prio 1' issues

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1. Voice over

2. Back-up & restore

3. Simplicity

4. Team Velocity

5 minutes brain training

Take these 4 risks.

What's your agile risk strategy for each of these?

Adding 'just a gram' to the Scrum process.

Think hard and decide!

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AGRAM four risk types strategy

1. Detail product risk
related to one specific
backlog item (or two)

- Add an *acceptance criterion* to the backlog item (user story)

2. General product risk
not related to an existing backlog
item, can be managed in 1 sprint

- Raise a *spike, risk item, HIP item* or a new *user story*

3. Long time product risk
requiring attention for a longer
time span & more sprints

- Add an item to the *Definition of Done (or DoR, DoS)*

4. Project risk
not directly related to
project deliverables

- Raise an *Impediment* or *Improvement item*

Explicit risk mitigation in Scrum 'as is'!

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Use product and sprint backlog!

Manage risks in the backlog

- As part of a *user story* or *epic*   or
- … as a *spike*   or
- … as an explicit *risk item*

Add *failure prob.* as an attribute

- Backlog already has *Value*
- Add *Failure Probability*
- *Risk* = Value * Probability

Keep up-to-date: Backlog grooming

- AKA *backlog refinement, story time*
- In *sprint review* + continuously
- Ken Schwaber: reserve 5% time

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Use product and sprint backlog!

Sprint Backlog SmartACCEPT
For workshop agile risk analysis

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ID	As a ...	I want ...	So that ...	Prio (order)	Value	Fail prob.	Story Points
1	Test manager	Voice over with video capture	We can save time & money by better clarification from testers to developers	H	40%	60%	50
2	Test manager	SmarTRACK link for better bug tracking	We can remove redundancy in issue management	M	35%	30%	80
3	Dev	Explorary testing support	We can continuously build	H	80%	40%	30

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Optional: make a risk list

Risk list SmartACCEPT
For workshop agile risk analysis

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Risk	Type	Risk details	Risk Strategy
Voice over with video	1	May introduce technical complications	Acceptance criterion added to User Story 'Voice Over'
Back-up & restore	2	May be insufficient (technical and process)	Spike raised 'Investigate backup & Restore'
Simplicity	3	The GUI may become too complicated resulting in user experience erosion	Item added to Definition of Done: overall simplicity and user experience is equal to or better then previous sprint
Team velocity	4	May decrease due to team disturbance because of operational 'prio 1' issues	Added to Impediment list. Scr... for add...

Auditors love this!
But it's an additional artifact, requiring maintenance.
So think twice: can't you really do without?

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So far, so good ?

This was our starting point and our goal:

Let's assume that we:

- have serious risks
- want to address them in Scrum
- want it explicit & traceable
- want to add 'just a gram' to Scrum

Did we manage?

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What's the deal up to now?

Explicit and traceable risk management

- In an agile / Scrum setting
- And that's what we were looking for!

For all risk types

- You can map every risk to one of the four types
- Split up composite risks if need be

Without overloading Scrum

- We added 'just a gram', one or two things:
  - One attribute to the backlog
  - If you want: a risk list as a separate 'artifact'

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"True eloquence consists in saying all that is necessary and saying nothing more than is necessary"
(Francois de la Rochefoucauld)

But that man is no longer alive…
…. and I still want to say a bit more…
… because you will need it, I presume.

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Can we add more?   Yes, we can!

1. Risk trawling: how to *find* risks?

2. Visualisation: how to bring risks to live?

3. Deal with (too) big risks

Avoid tunnel vision

Add colour to the risks and bring them to live!

If the risks are too big, what to do?

Start with an 'old style' PRA risk workshop

Sticking to the teams main focus point: user stories

Scrum helps here too

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1. Risk trawling

Wide or focused?

- Wide & out-of-the-box: OK, but sometimes *vague*
- Focused at sprint backlog: OK, but danger of *tunnel vision*

You need both!

- Finding blind spots beyond (sprint) backlog
- Maintaining user story focus for the agile team

Therefore:

- Start a project (> 1 sprints) with a broad risk analysis (PRA/PRIMA)
- In the sprints: manage concrete risks with the 4 AGRAM types

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Two-dimensional risk matrix

PRIMA Product Risk Matrix — Project: CRM implementation

The conscience of your test approach

Identifies risk *areas*

Do it once, in your release / PI planning. Not every sprint.

THE WISDOM OF CROWDS
JAMES SUROWIECKI

Download from SmarTEST Downloads - Valori

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Advantages broad risk analysis

Serious worries taken seriously

- Stakeholders, Product Owner, Scrum team
- More complete & balanced risk perspective

Out-of-the-box

- Not limited to (sprint) backlog
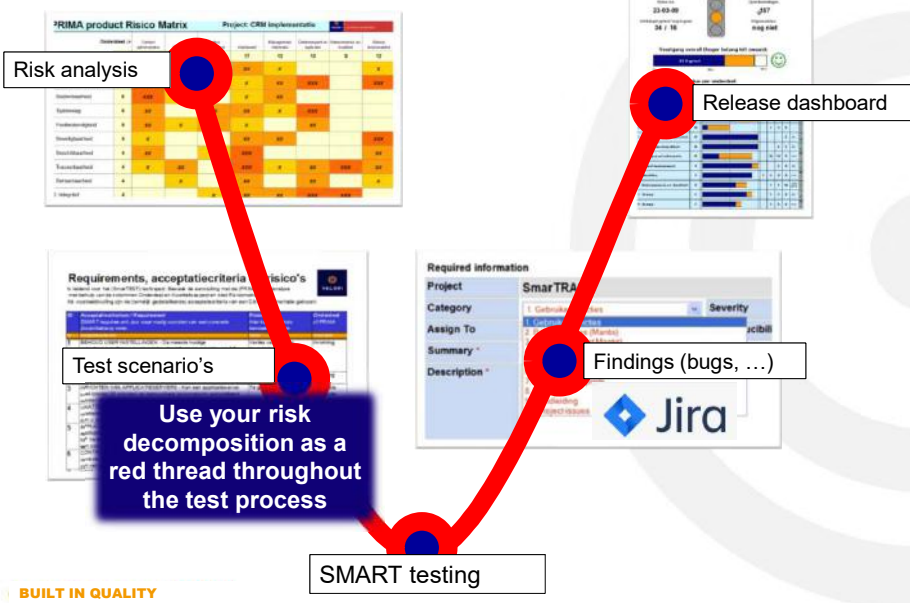- Better 'know what you don't know'

Validation of in-sprint risks

- Use risk matrix to validate/complete
- Reduces group think & tunnel vision

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Additional goody: transparancy

Risk analysis

Release dashboard

Test scenario's

Use your risk decomposition as a red thread throughout the test process

Findings (bugs, …)

Jira

SMART testing

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In-sprint risk trawling

Refinement
- Ask 'What if' questions (BDD Gherkin: Given...When...Then...)
- Address rainy day scenario's

Sprint planning
- Enrich your planning w
- Add *failure probability*

Avoid vagueness in the sprint:
- Focus on the sprint backlog
- Good teams have that focus
- Plus room for *strange creatures*

Stand-up, demo, retro
- 'risk brainwaves' come spontaneously
- Foster a positive-critical mindset

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Scrum helps here too

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2. Visualisation: Risk Burndown Chart

Source: Agile Body of Knowledge (AgileBOK.org)
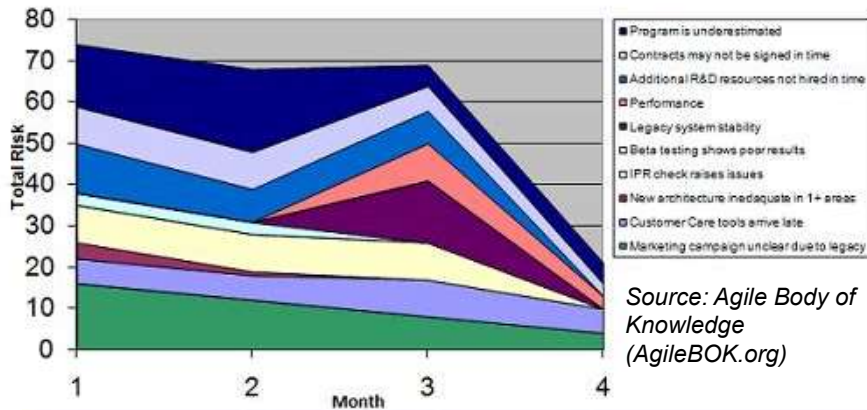
Not bad, but adds a lot of process and doesn't relate to user stories
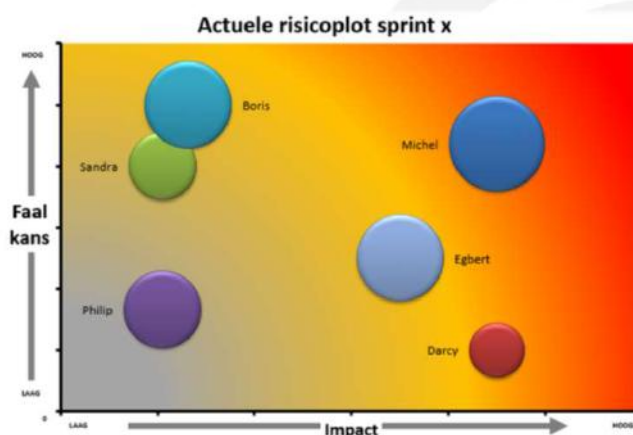
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Better visualisation: AgRAM risk plot

Stick to the team's main focus point: user stories

Just fill in a simple table, graph adjusts accordingly

Place near Scrum Board and make risk awareness part of daily stand-up
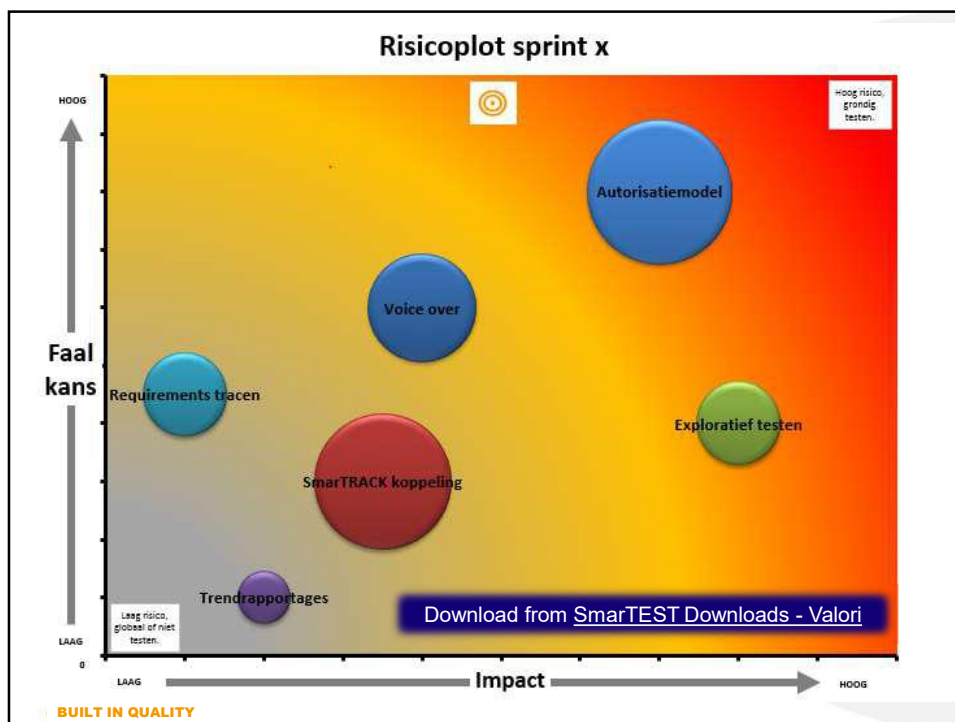

Actuele risicoplot sprint x

Vul onderstaande tabel in en de grafiek beweegt mee, zowel namen als cijfers.

User Story	Impact	Faalkans	Story Points
Michel	90,00%	87,18%	60
Darcy	90,00%	20,00%	20

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Risk decreases (normally)

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Can we add more?   Yes, we can!

1. Risk trawling: how to *find* risks?

- Avoid tunnel vision
- Start with an 'old style' PRA risk workshop

2. Visualisation: how to bring risks to live?

- Add colour to the risks and bring them to live!
- Sticking to the teams main focus point: user stories

3. Deal with (too) big risks

- If the risks are too big, what to do?
- Scrum helps here too

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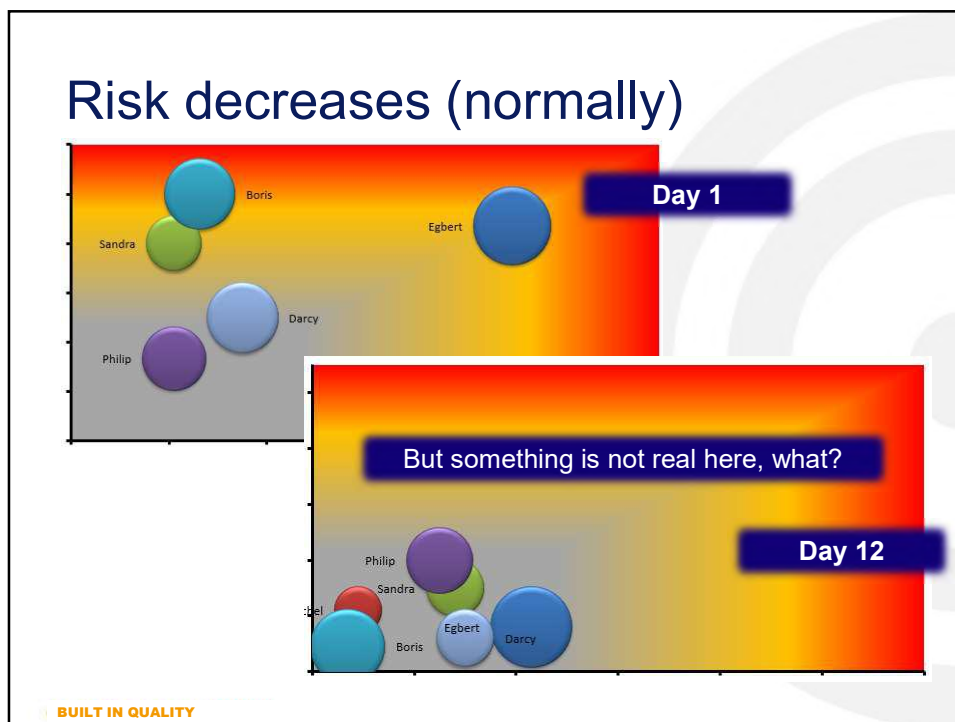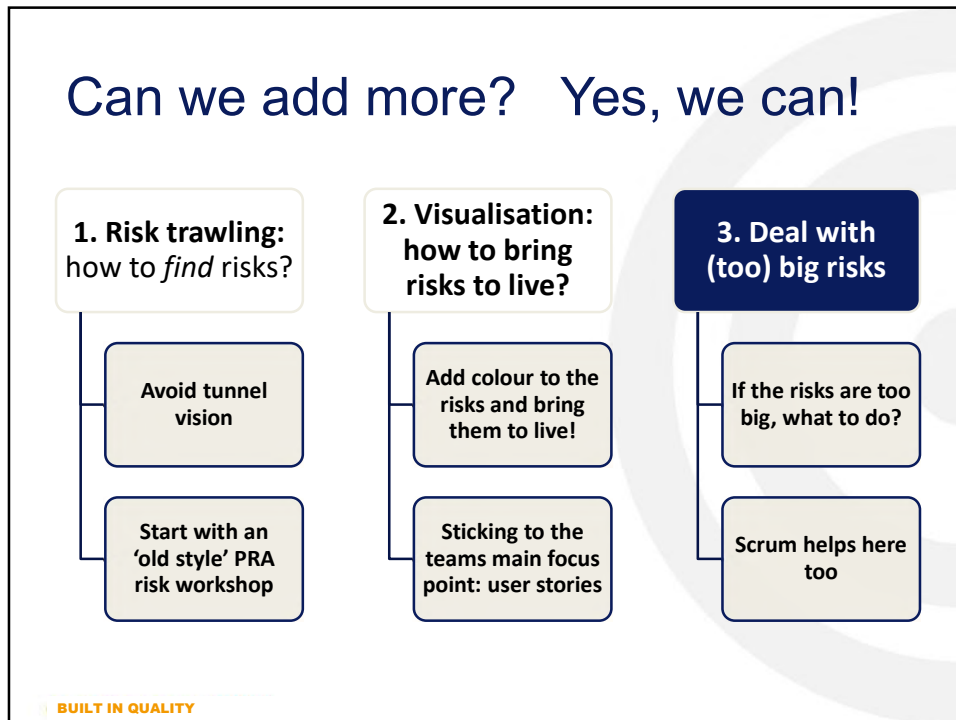
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3. If the risks are (too) big

Risks are …	Measure
Too big, irresponsible	• Kill project / release • Revise sprint backlog: less risky items
Big, possibly too big	• Do shorter sprints. Worst case, you won't loose 4 weeks but 1 or 2. • Deploy and test independently in A-environment ('above the line' in the W-model)
Significant, but manageable	• Take ample time for inspection and demo's • Take care for test-expertise in the team • The independent acceptance test may be faster
Small	• Test smart, but don't talk risks too much • Focus on opportunities and velocity

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To wrap it all up

Decide: explicit risk approach needed?
- Risk analysis is is not a goal in itself, avoid *waste*

Make your risks go with the Scrum flow
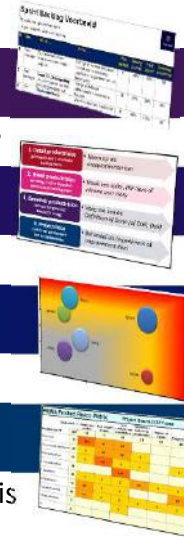- Using the 4 AGRAM risk types

Visualise risks at the Scrum board
- Using the risk plot tool

Avoid tunnel vision
- Always start with an 'out-of-the-box' risk analysis

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1. Detail product risk related to one or two specific backlog items	• Add an *acceptance criterion* to the backlog item (user story)
2. General product risk not related to a specific existing backlog item	• Raise a *spike, risk item, HIP item* or a new *user story*
3. Long time product risk requiring attention for a longer time span & more sprints	• Add an item to the *Definition of Done* (or DoR, DoS)
4. Project risk not directly related to project deliverables	• Raise an *Impediment* or *Improvement item*

Dont let risks run free

Respect Scrum, add just a gram

Use AGRAM

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Thank you very much!

Egbert

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www.valori.nl
www.smartest.nl

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