

# Requirements to the rescue

Quality in a fast-churn world

## Quality in a fast churn world

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- ▶ Billy Connelly
  - Don't worry - the sanitized version
  
- ▶ Let's analyze it
  - This, that, most, some, all, less, more, plenty = Scope
  - Now, yesterday, tomorrow = Time
  - All be changed = The nature of projects
  
- ▶ What a noise ... how do we deal with this?
  - Without requirements we go all over the show
  - We need techniques to validate the requirements
  - We need to Time-box to contain the damage
  - Agree & re-prioritized requirements
  - **Oops are we talking to the right dude?!**

## Topics for today

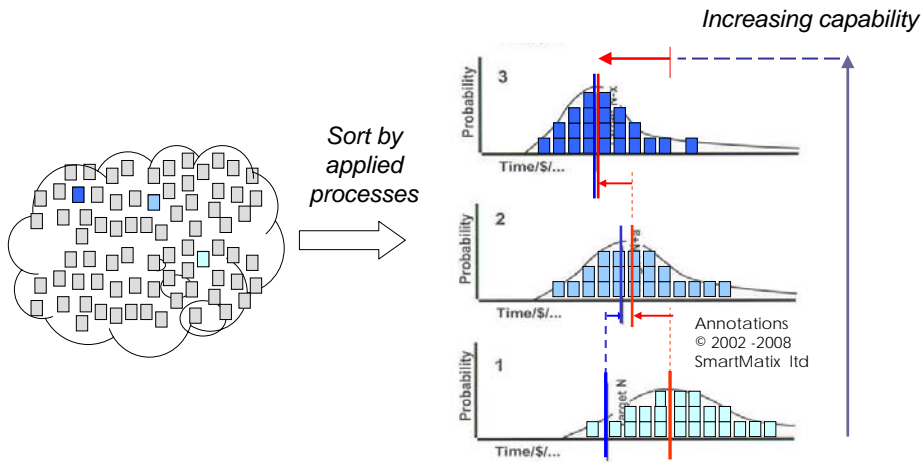
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► Topics:

- What are the fundamentals to deliver on T,Q,\$
- How do methodologies help manage change
- What is key to canvas stakeholders needs
  
- Discussion: your questions

## Fundamentals to deliver on T,Q,\$

## Fundamentals to deliver on T,Q,\$ (CMMI)



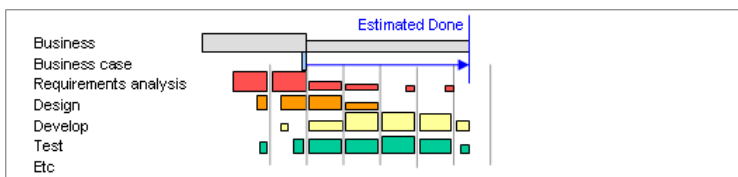
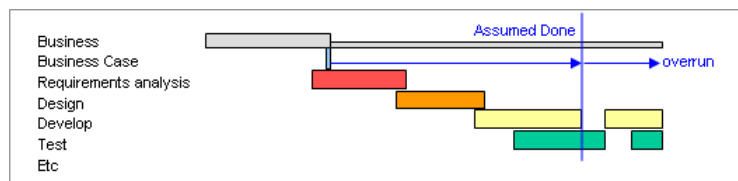
## Key Processes which measurably improve

- ▶ [Pri]: Project internal processes:
  - **Level-2:** Requirements Management (RQM), Project Planning (PP), Project Monitoring and Control (PMC), Supplier Agreement Mgmt (SAM), Measurement and Analysis (MA), Process and Product Quality Assurance (PPQA), Configuration Mgmt (CM) and
  - **Level-3:** Requirements Development (RD), Technical Solution (TS), Product Integration (PI), Verification (VER), Validation (VAL), Risk Mgmt (RSKM), Decision Analysis and Resolution (DAR), Integrated Project Mgmt (IPM), Integrated Teaming (IT), and Integrated Supplier Management (ISM).
- ▶ [Org]: Organisational (i.e. project over-arching) processes:
  - **Level-3:** Organisational Process Focus (OPF), Organisational Process Definition (OPD), Organisational Training (OT), Integrated Project Mgmt (IPM), Integrated Teaming (IT), and Organizational Environment for Integration (OEI).

Billy

## How methodologies manage change

### Methodology – shorten time, deal with change



One problem...

## Methodology evolution – validate & change

### RUP – Rational Unified Process

- ▶ Pros:
  - Vision – excellent: creates stakeholder buy-in & validation
  - UseCase – great, but what are they??
  - Elicit Requirements & “manage”
  - Req. mgmt enables incremental / iterative
- ▶ Cons:
  - UseCases tend to lead to Analysis Paralysis
  - The method assumes you have tools
  - Poor adoption due to: “role based instruction”
- ▶ Result:
  - RUP often only in name, method perceived as poor

## Agile - fix the issues of the RUP, to meet Billy

### Agile e.g.: XP, Scrum

- ▶ Pro's:
  - User stories to elicit requirements
  - Start coding to show what it does (validate by showing)
  - Draw together the team
  - Enforces time-boxing, building a set of Req. at a time
- ▶ Cons:
  - Shifts the issue from documents to code (re-factoring)
  - Lacks stakeholder analysis & design
  - States estimate & plan upfront can't be done – business issue
- ▶ Result
  - Mixed (person dependant), reluctant adoption

## Wouldn't it be nice if...

- ▶ Keep the good, ditch the ugly (starting with coding)
  - Retain Vision, UC-list (stakeholders, elicitation & validation)
  - Maintain a simple comprehensive list of requirements
  - Retain Design as a roadmap for work planning & validation
  - Draw / sketch the interfaces (much easier than code or UCs)
  - Time-box 1-2 weeks max, starting with just analysis & design
  - **Careful:** User Stories are no replacement for UC's
- ▶ In one sentence
  - agile specification followed by Agile builds
- ▶ Examples: EssUP, SmartMethod

*Billy's?!*

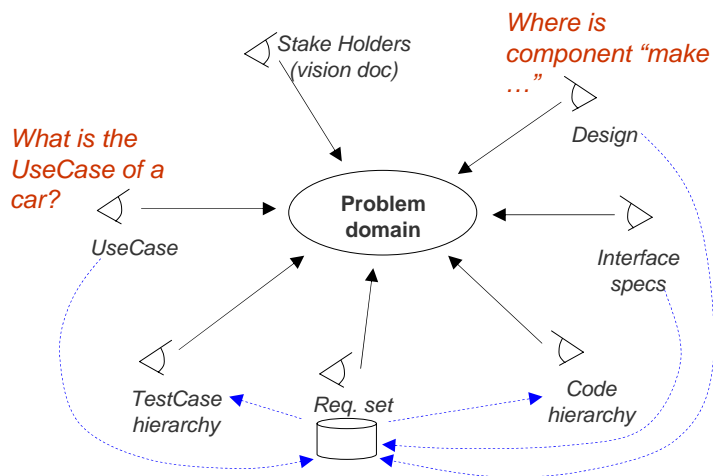
What is key to canvass ~~stakeholders~~  
needs

Some suggestions  
to get the right requirements  
and stay in tune with change

## Vision (or BRS or PRD) is critical

- ▶ Background analysis
  - Theory of constraints ⇒ current reality tree's etc
- ▶ Problem & Solution statements
  - validate each other
- ▶ Stakeholder analysis
  - Who is responsible for which aspects of the Solution
- ▶ Solution analysis
  - Optimize between business & software
- ▶ All of the above
  - **Validate** vision itself

## Elicit w. right Stakeholders - facilitate validation



## Requirements keep it simple, so it's easy to change

Roll-up	Item heading / Item label	Group heading / Item Description	Priority	Status	Region	Priority	Requested by	CR #	Comment
43	PL publishing system								
44	Overall requirements applicable to everything								
45	Functional requirements								
46	SR_26	The system shall have the facility to email all currently registered PICs	N	R	7	F			
47	PL-version management								
48	SR_5	The system shall not allow project version instances (for a PL for an organisation)	M	A	5	F			
49	SR_31	The system shall allow only Master PL versions with a status of "Active" to be copied by organisations.			5	F			
50	SR_32	Future requirement : The system shall allow the PL Admin to archive and delete versions of a process library	W	R	6	F			
51	SR_23	The system shall display all PL artefacts as well as all organisation-specific artefacts on a single screen.	S		4	C			
52	SR_159	The Templates and associated Guides and Samples shall be identified in the system through the Key SisterID and displayed as such where applicable			4	C			
53	Doc								
54	SR_139	The system shall recognise the entity of "Doc", which is either of type "Set of pages" in the CMS making up the Doc, or of type "File"	M	A	4	C			File or Book
55	SR_141	The system shall recognise the entity of "Doc" or "File", as one of Category "Book", "MemJogger", "Directives", "Standard", "Guide", "Template" or "Sample"	M	A	12	V			Book, standard and template only
56	SR_140	As a default the system shall set the Doc of type "Set of pages" to "Non-printable"	M	A	6	F			
57	SR_142	The system shall allow the PIC (or if Org=Master the SuperPIC) to	M	A	7	F			

## Sketch the UI, reports etc, tag with Req.'s

Sketch,

or use Word or Excel



### 4.2.1 News Home page

The News page forms the Home page for the User of this application.

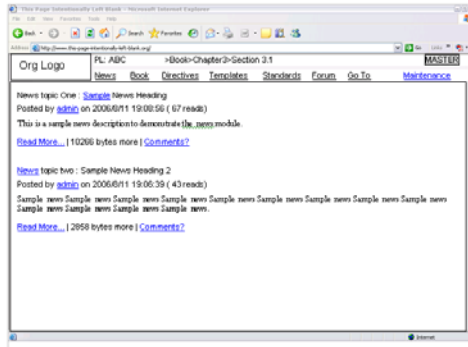


Figure 13: News Home Page

Descriptive text (SR12)  
More descriptive text (SR16)|(SR88)

don't worry about the format (the code will do that)

## Req. mgmt : validation in time-box approach

Small	1	2	3	4	5	6	7
Project Mgmt (user stories)		■	■	■	■	■	■
Analysis (Vision, UClist)	■	■	■	■	■	■	■
Analysis (IRS's, some UCs)		■	■	■	■	■	■
Architecture (HLD)		■	■	■	■	■	■
Code		■	■	■	■	■	■
Test		■	■	■	■	■	■
IT operations (ITIL)			■	■	■	■	■

Large	1	2	3	4	5	6	7	8	9	10	11	12	...	24	25	26
Project Mgmt (user stories)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Analysis (Vision, UClist)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Analysis (IRS's, some UCs)		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Architecture (HLD)		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Code					■	■	■	■	■	■	■	■	■	■	■	■
Test		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
IT operations (ITIL)					■	■	■	■	■	■	■	■	■	■	■	■

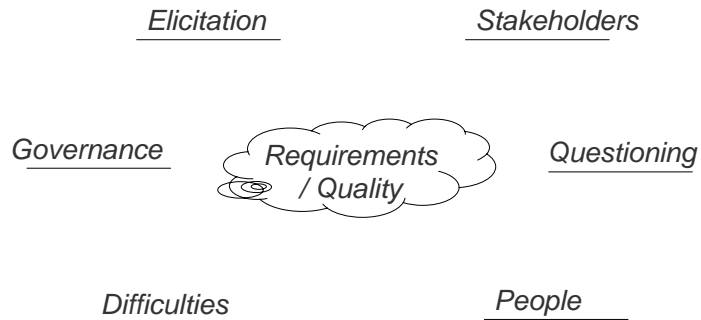
## Summary – quality in a fast churn world

- ▶ CMMI points to key processes:
  - RQM, RD, TS, VAL
  - PP, PMC, CM
  - Integration for iteration (IPM, IT, OEI)
- ▶ Methods help to be strong on
  - Analysis & validation (RUP)
  - Team integration & time boxing (XP, Scrum)
- ▶ To canvass stakeholder's needs
  - Retain Vision, UCs, Design & user stories
  - To validate *stakeholders* and requirements

## Questions & debate ...

Tips: <http://www.this-page-intentionally-left-blank.org/>

Book: requirements-led project management – S & J Robertson  
jan@SmartMatix.com



SmartMatix - Productivity tools and know-how for IT, projects & programs

## Discussion notes

- ▶ The Glossary is an important artifact to create a common vocabulary within the organisation and amongst the team, from business folk to developers and users
- ▶ Don't just focus on users, analyze who the stakeholders are, and keep in mind that the software is ultimately to improve efficiency or enable the business
- ▶ Users may know what they want, but there is always a risk that you automate what you've always been doing rather than analyze what is really needed.
- ▶ Split requirements into "domains", i.e. at the business level, at the business operational / software level, at the detailed software level.
- ▶ Requirements have unique characteristics and properties; we will put our requirement standard on our web-site as freeware or email us

## Discussion notes

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- ▶ Enterprise architectural requirements are requirements at the business level. Either have a requirements document capturing these or have a standard. Similarly you can have test standards or UI standards and use just one requirement to tie the standard into the scope of the project, for example:  
SR\_10, Mandatory: the system user interface shall comply with the UI\_std #6789, dated 26 oct 2007, except for this standard's requirements Mui\_16, Mui\_30 to Mui\_39.
- ▶ The vision document is the ultimate unifying and most important document for the project and requirements elicitation. If you haven't got one please contact us
- ▶ You don't need to code to capture the needs, a whiteboard session sketching what is needed is a super fast agile method. Also don't fall for the trap to "beautify" the whiteboard session using Visio; you can draw with a pencil in 2 minutes what will take 2 hours in Visio!