

# The pragmatic requirements for requirements

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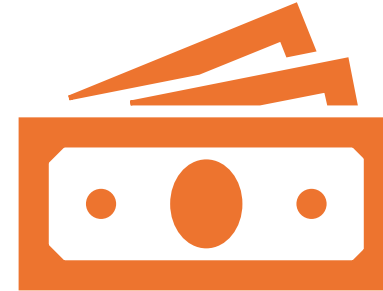
[hazel.woodcock@scsrailways.co.uk](mailto:hazel.woodcock@scsrailways.co.uk)



# Why



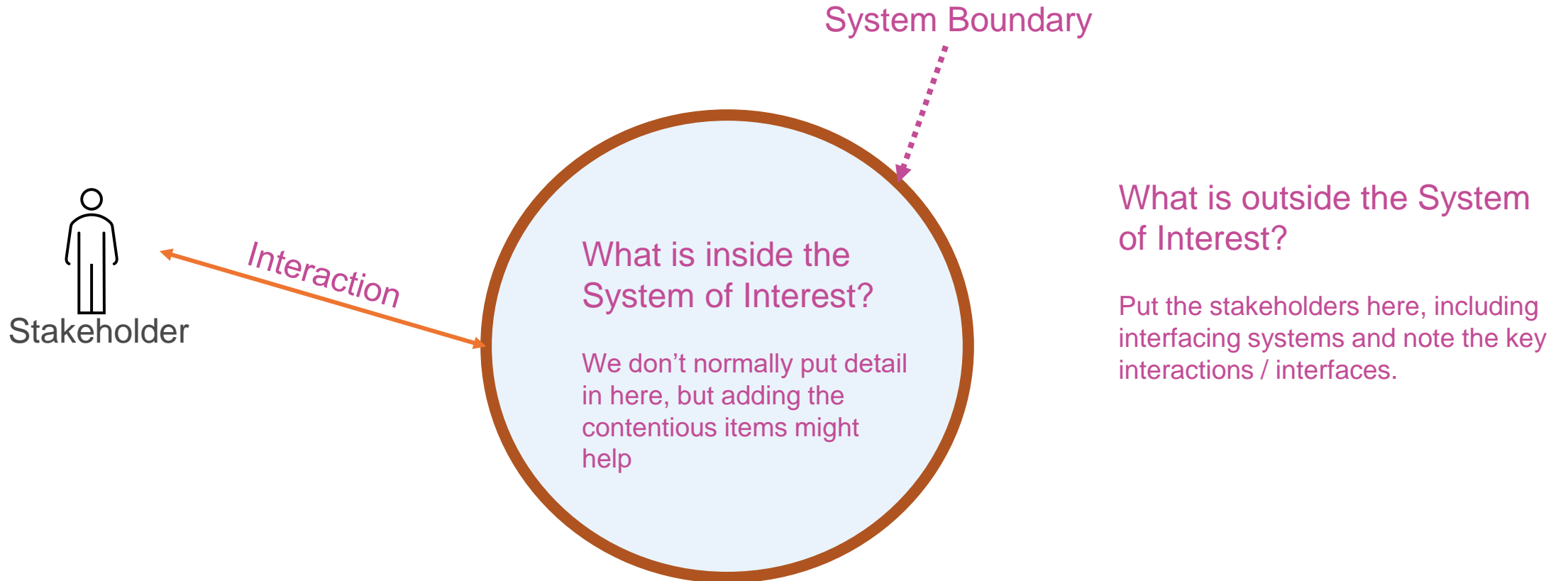
Common understanding



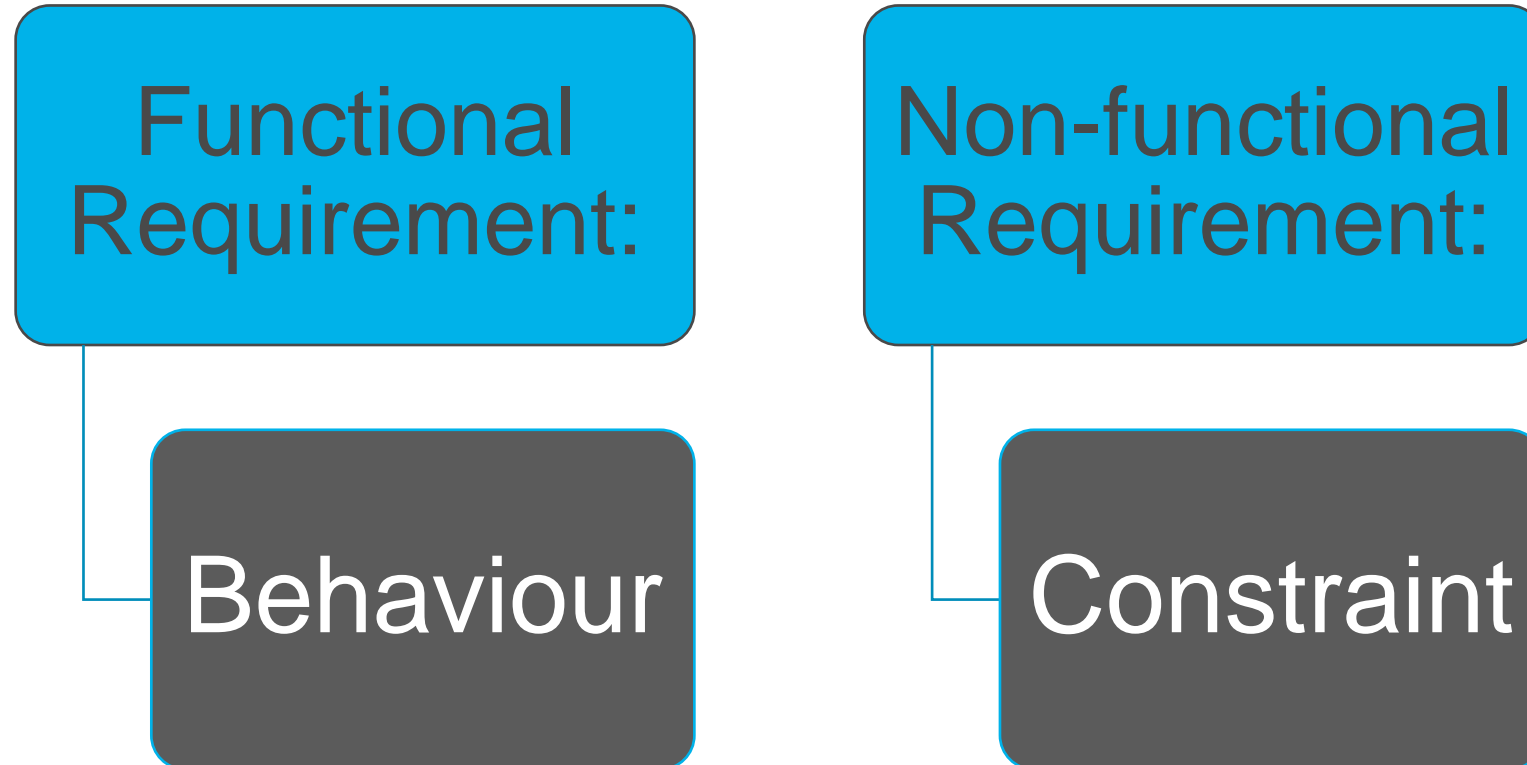
Get paid

Quality is Conformance to Requirements  
– *Phil Crosby, Quality is Free*

## Q1: What is the context



## Types of Requirement: Functional/Non-functional



# Types of Requirement: Stakeholder/System



## Stakeholder

Problem domain



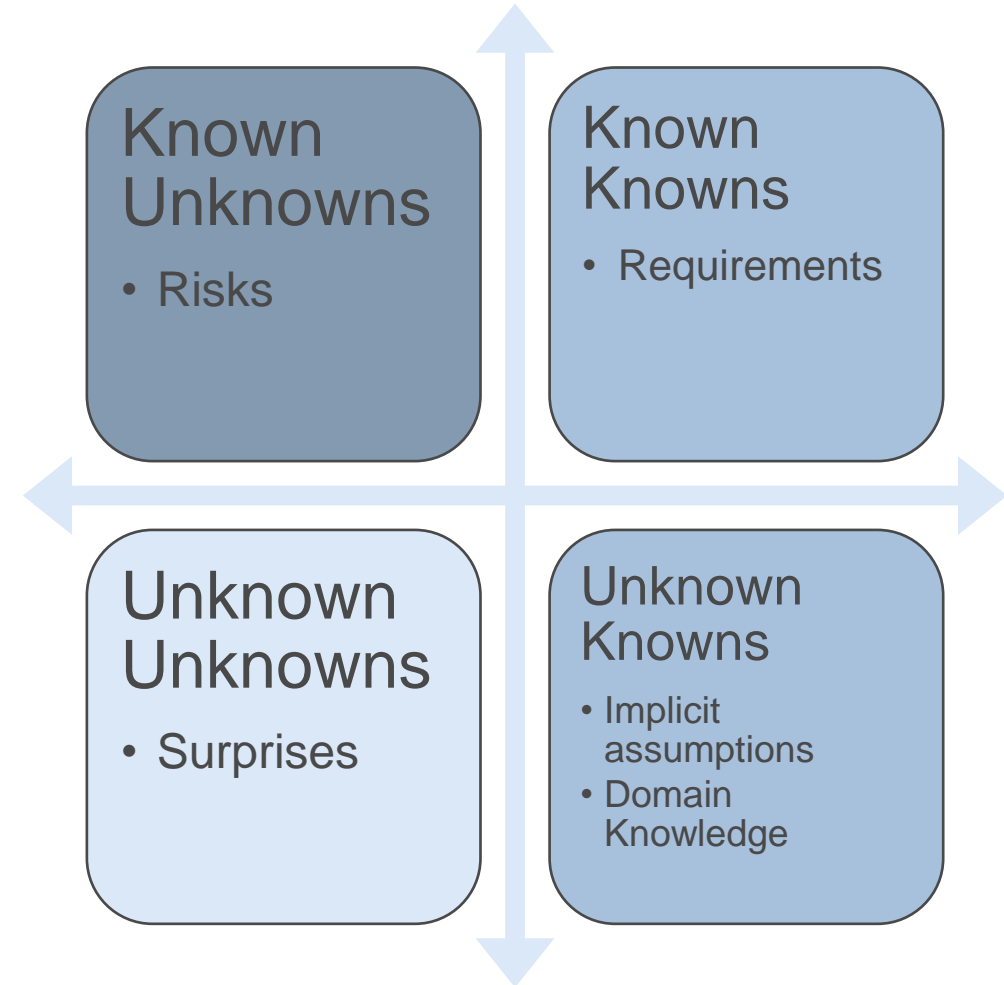
## System

Solution domain

# Rumsfeldian Analysis

*Reports that say that something hasn't happened are always interesting to me, because as we know, there are **known knowns**; there are **things we know we know**. We also know there are **known unknowns**; that is to say we know there are some **things we do not know**. But there are also **unknown unknowns**—**the ones we don't know we don't know**. And if one looks throughout the history of our country and other free countries, it is the latter category that tends to be the difficult ones.*

February 12, 2002



# Track attributes to answer questions

## Status

- Progress against plan
- Work remaining

## Ownership

- Team or system

## Verification method

- Is this verifiable?

## Traceability through lifecycle

- Through to design and test

# Managing Requirements



Elicitation



Validation



Decomposition



Change



Traceability



Verification



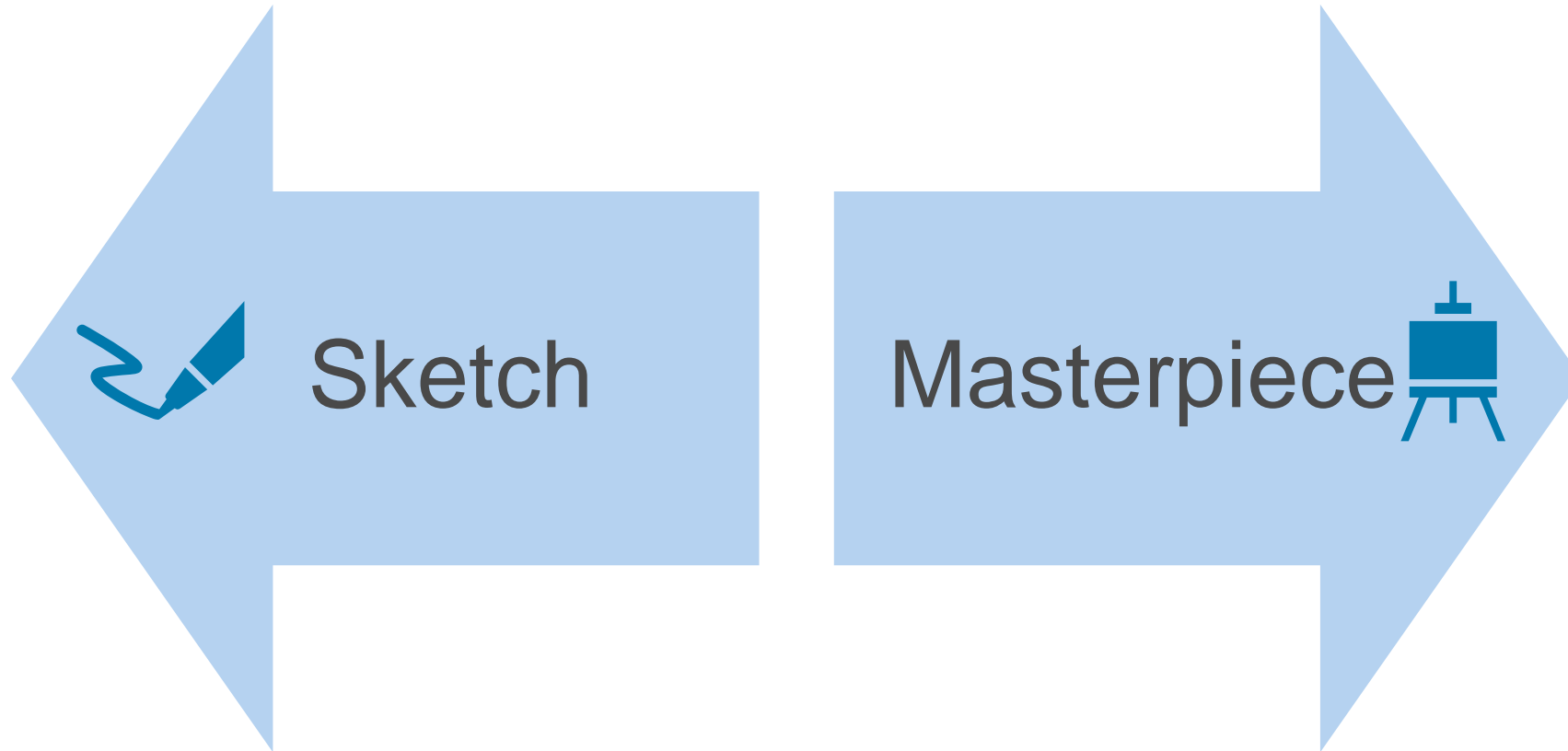
Implementation



Formality of  
language



## A complete and correct set of requirements



How do you know when you are done?

# Lifecycle



Incremental



Iterative



Support with  
attributes



Tailor the  
formality

Enough effort at the right time – a pragmatic approach

# Review



Single Requirements



Set of Requirements



Requirements  
Document

# Language

## MoSCoW

- Must
- Should
- Could
- Won't

## Shall / Will

- Shall – needs to be done
- Will – safe to expect it to be there

# Language

## Problem domain

- The <stakeholder> shall be able to <achieve a goal>
- Solution independent

## Solution domain

- The <system> shall <do stuff>
- Implementation independent

## Agile therefore Use Cases?

Use cases are a good **SOURCE** of requirements

Use Case Diagrams **ARE NOT** Use Cases

# Verification, Validation, MBSE



Work with...

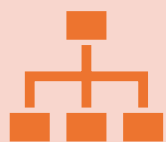


Trace to...



Report on...

# Pragmatism



Know the 'rules'



Tailor your process



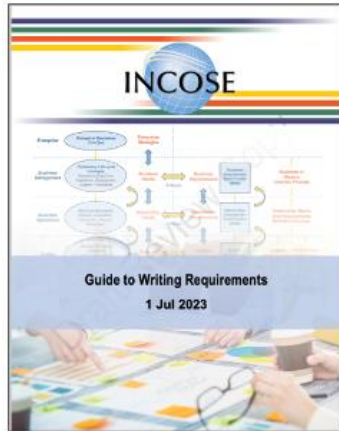
Focus on the basics



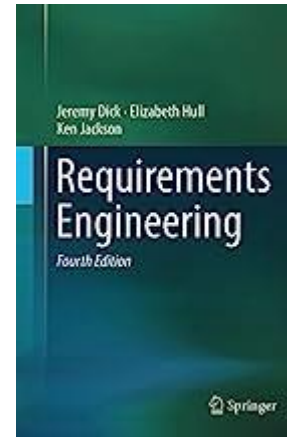
Find the *appropriate* level of formality



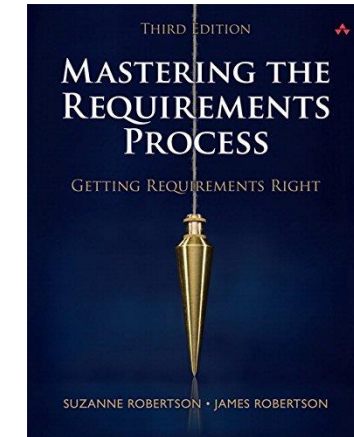
# Resources



INCOSE Requirements Writing Guide



- **ISBN-10** : 3319869973
- **ISBN-13** : 978-3319869971
- Requirements Engineering
- by Jeremy Dick, Elizabeth Hull, Ken Jackson



- **ISBN-10** : 0321815742
- **ISBN-13** : 978-0321815743
- Mastering the Requirements Process: Getting Requirements Right
- by Suzanne Robertson, James Robertson

