Requirements Management

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Plan

- Why requirements management
- Where should we start?
- A better solution
- The big picture
- A quick look at the RM tool

Why requirements management

The problem

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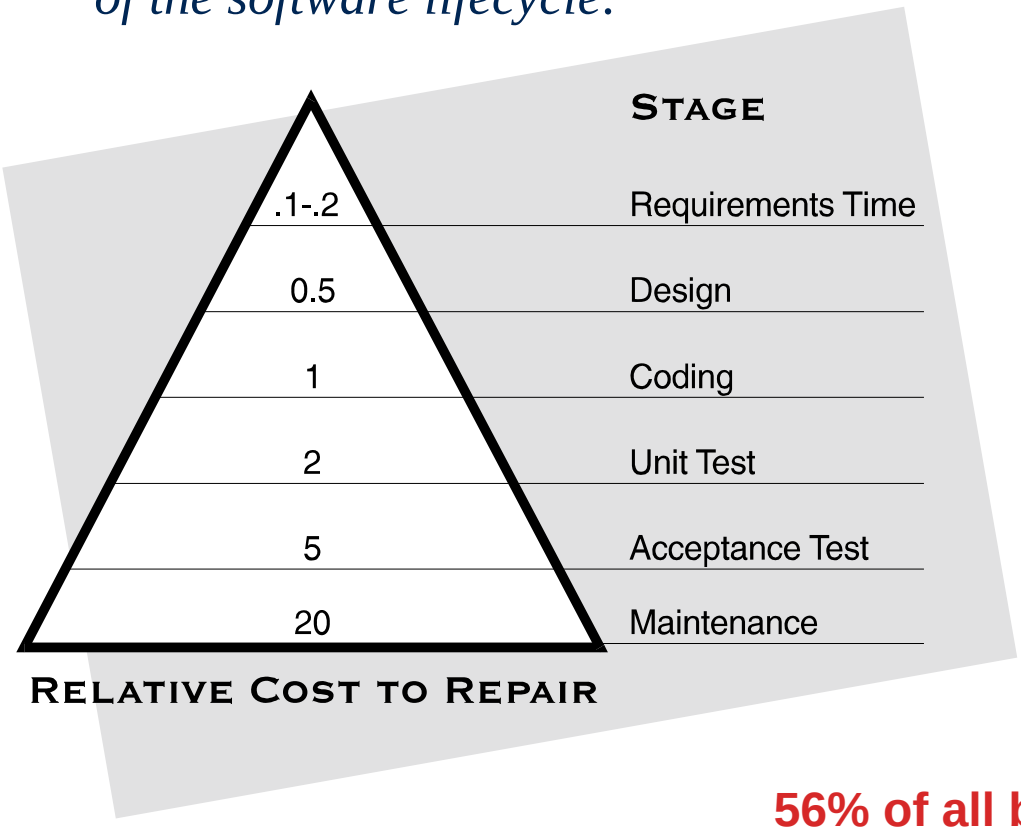
Can you afford not to?

As much as a 200:1 cost savings results from finding errors in the requirements stage versus finding errors in the maintenance stage of the software lifecycle.



Boehm '76, 88

56% of all bugs can be traced to errors made during the requirements stage

Where should we start?

Some background

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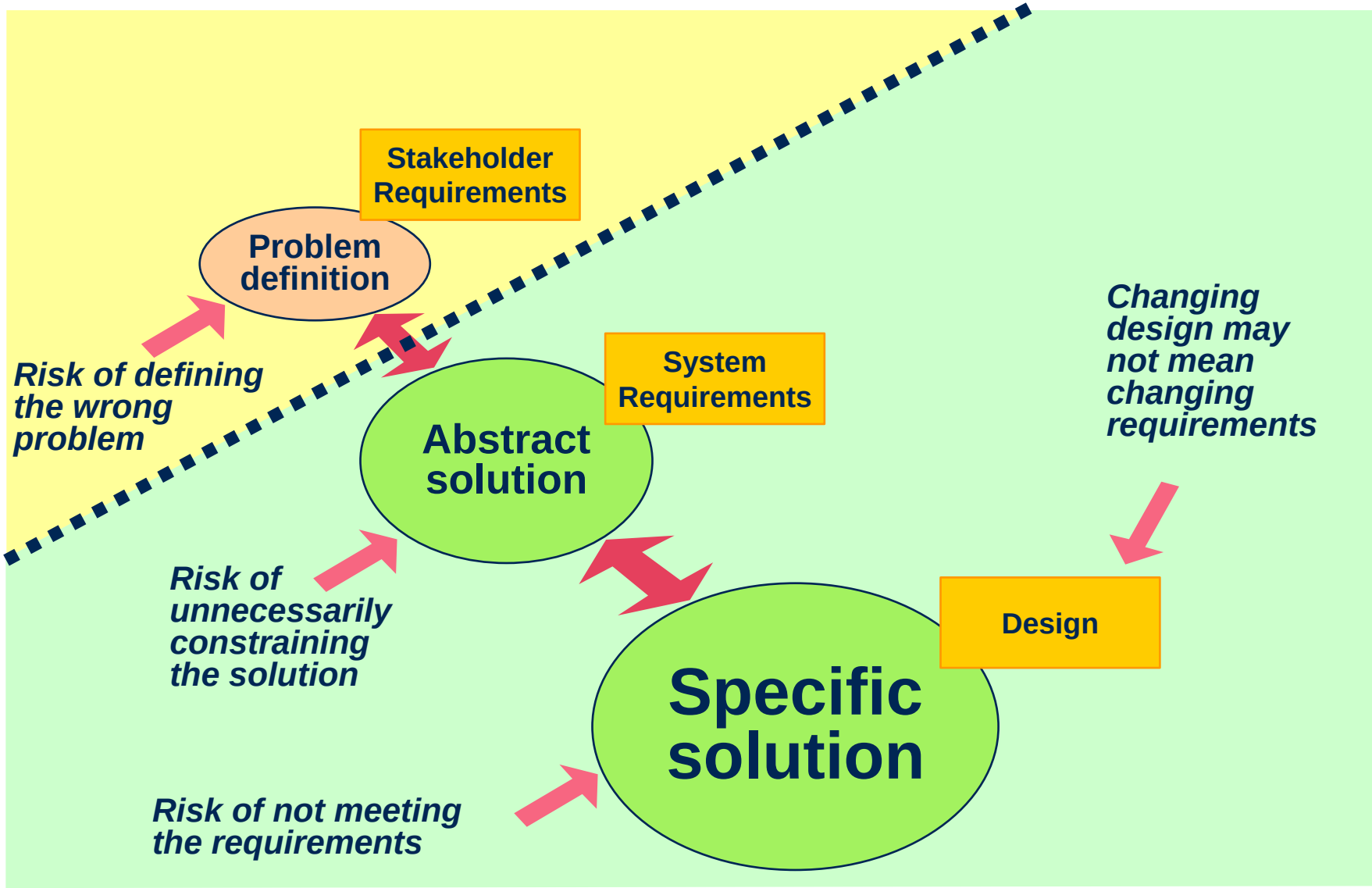
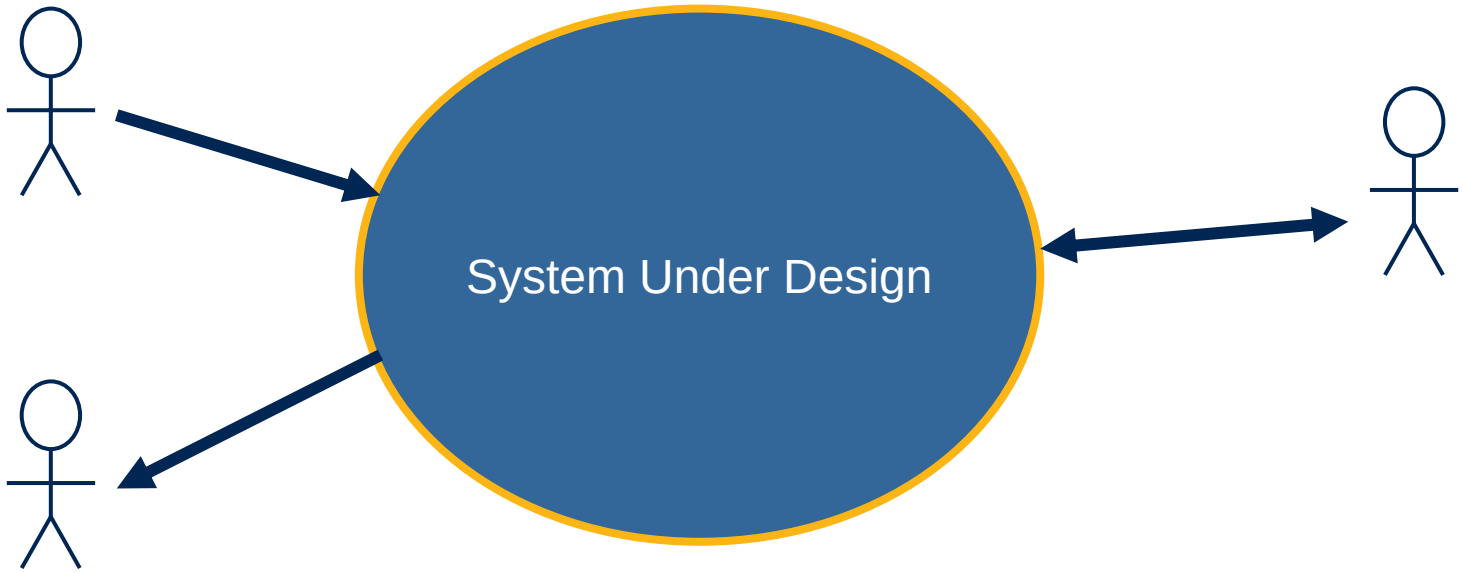
Terms

- Requirement
- Requirements capture
- Requirements engineering
- Requirements management
- Systems engineering

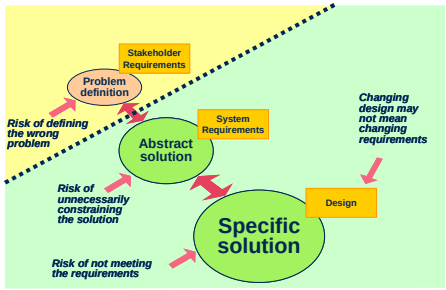
Problem and Solution

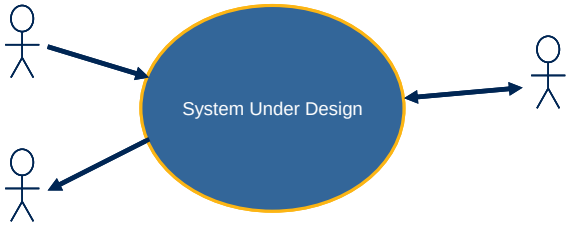


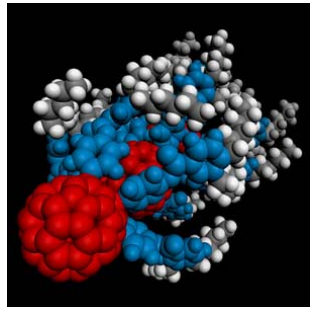
Scope of the requirements



Requirements Document Checklist







Requirements Set Checklist

- Is the set of requirements complete?
- Is it clear which higher level requirements will and will not be met?
- Are the requirements consistent with each other?
- Is repetition between requirements avoided?
- Have Critical Success Factors / Technical Performance Measures been identified?
- Is the set of requirements adequate to proceed?
- Is the aggregated Risk acceptable?

Individual Requirement Checklist

- simple
- concise
- unique
- unambiguous
- feasible
- consistent (compatible)
- necessary
- identifiable
- testable (verifiable)
- consistent use of language (shall, will, should, …)
- correct !
  - Plus, for future phases, is it scheduled and resourced?

Requirements structure

Single Requirement

<<Focus>><<Verb>><<Capability and qualifier>>

Document

By Focus

By Verb

By Capability

…

A better solution

Best Practice

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Waterfall model

User Requirements Specification

Functional Specification

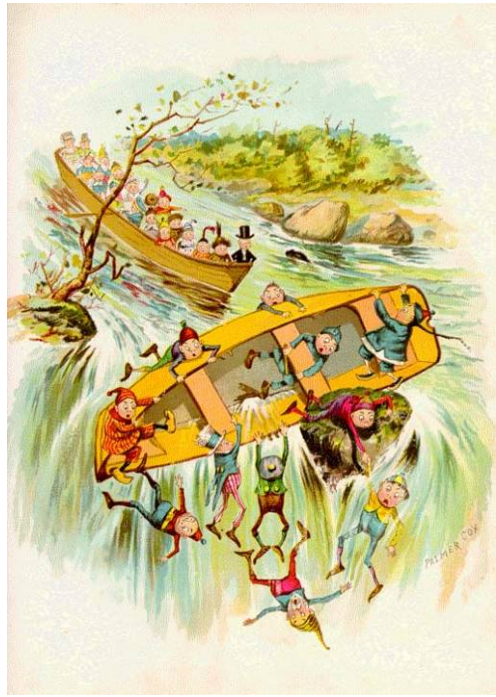
Design

System Build

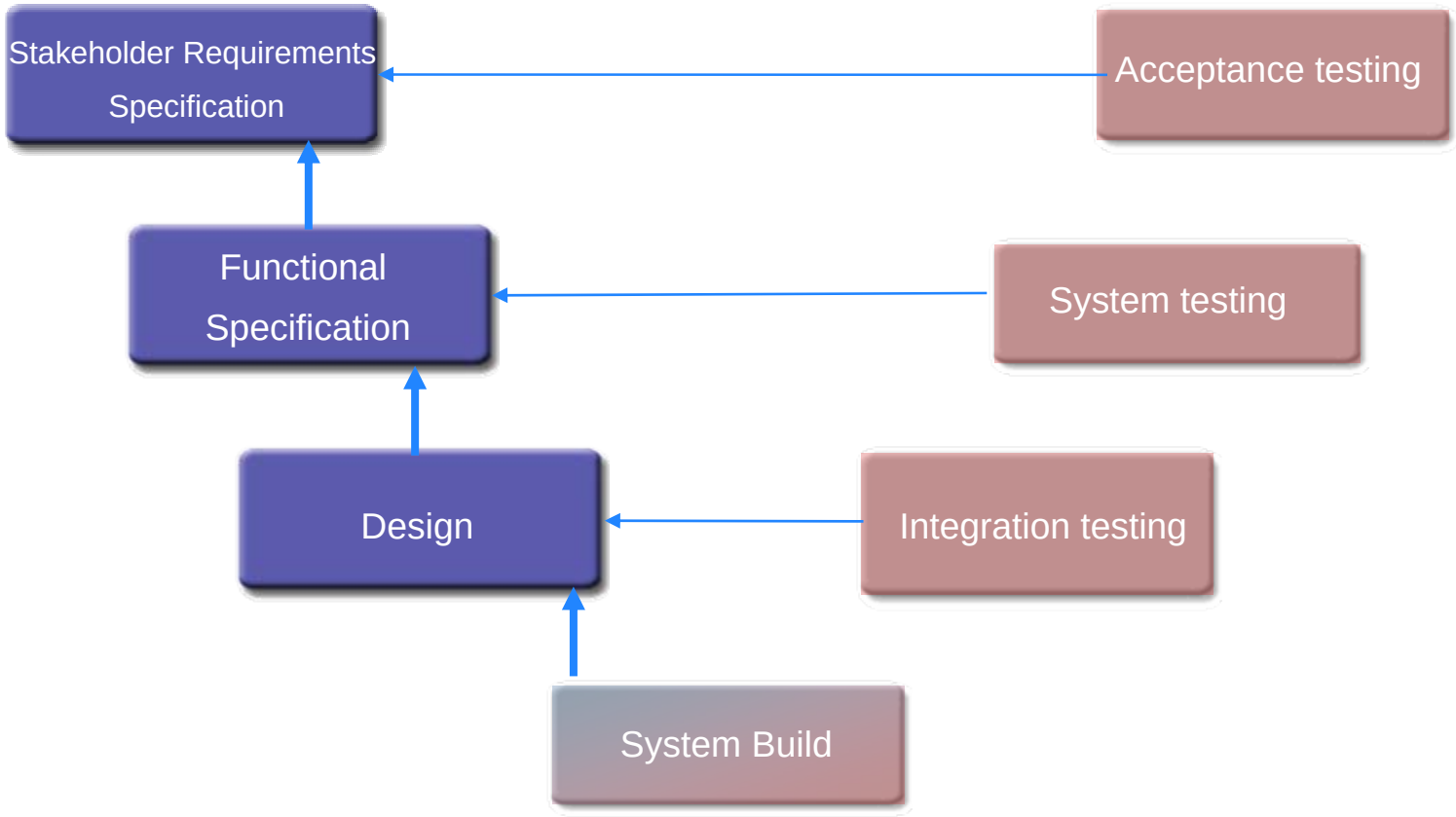
Integration testing

Acceptance testing

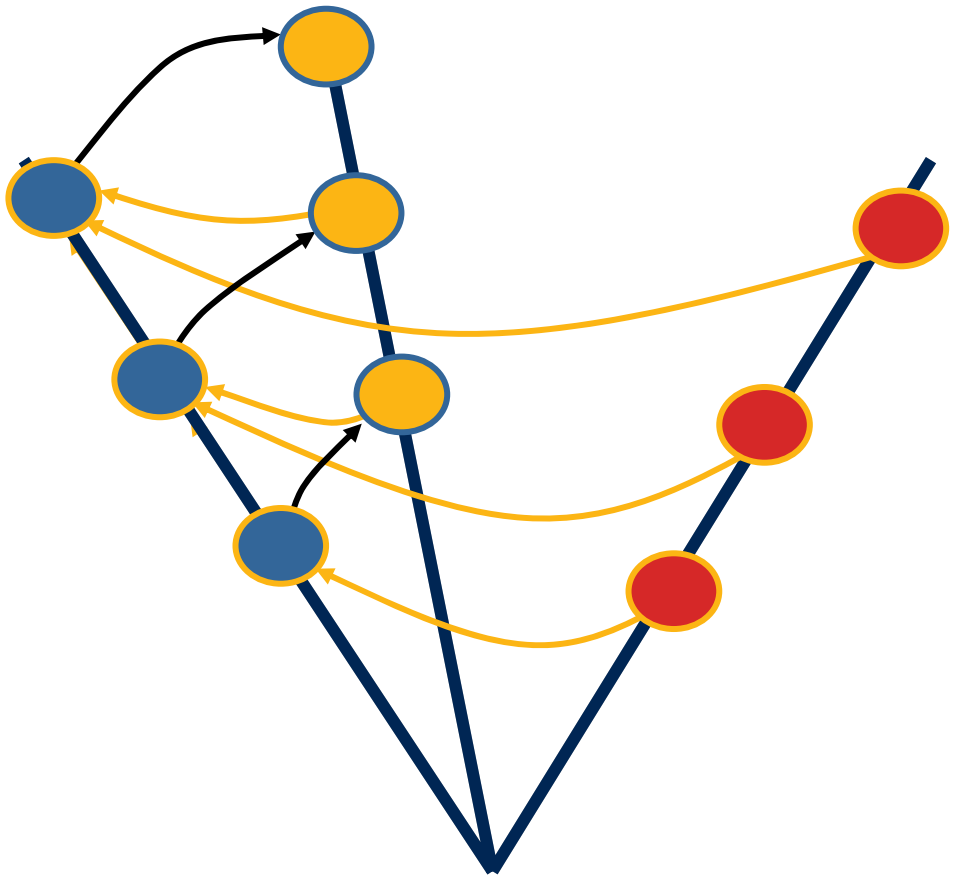
System testing

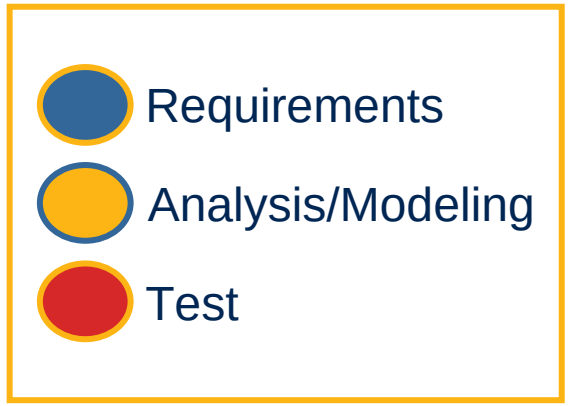


Traditional V model



V in practice





The big picture

How everything fits together

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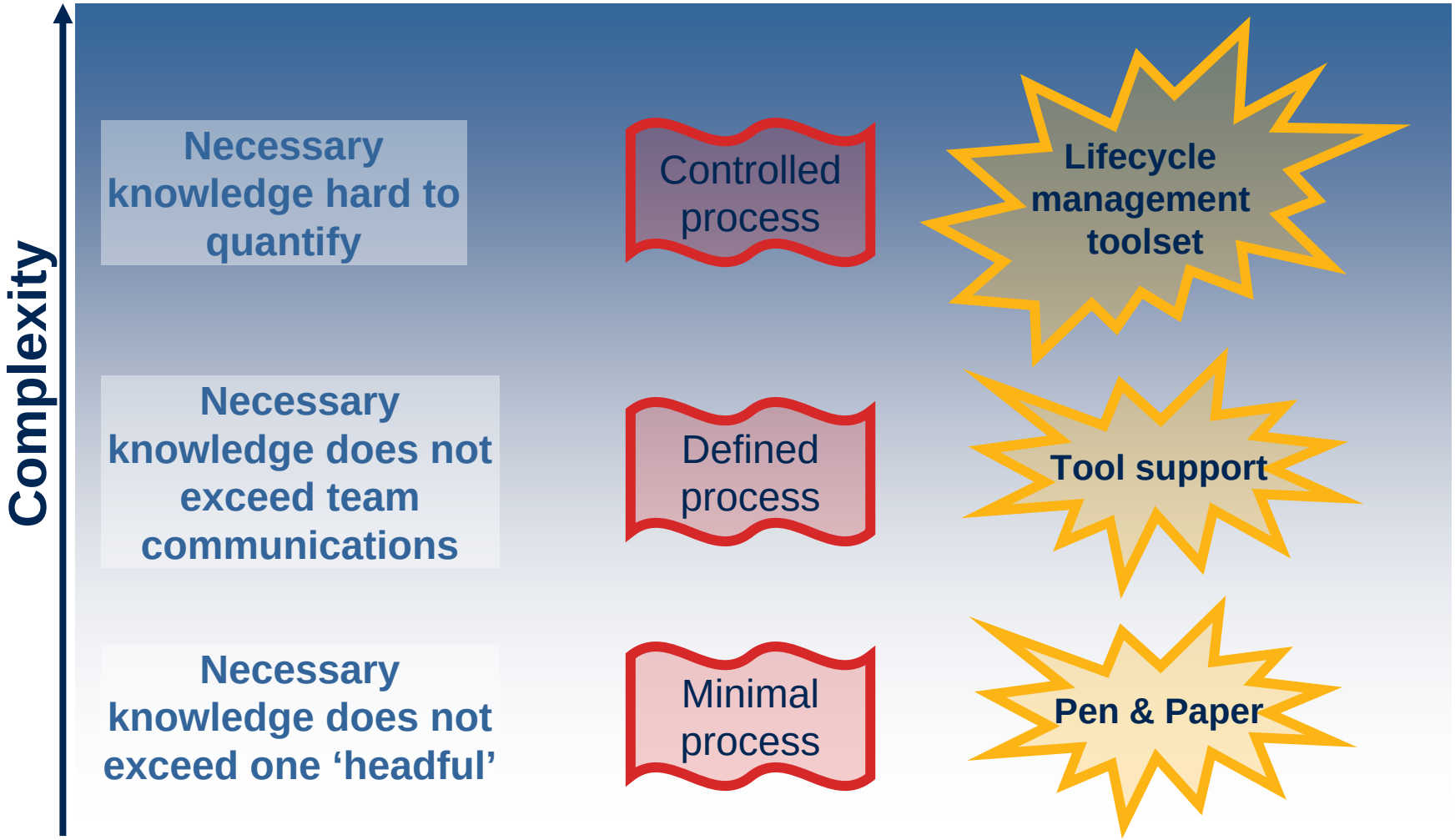
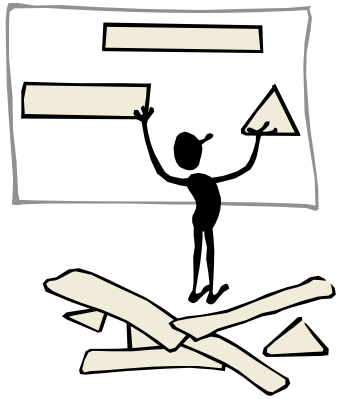
Industry evolution

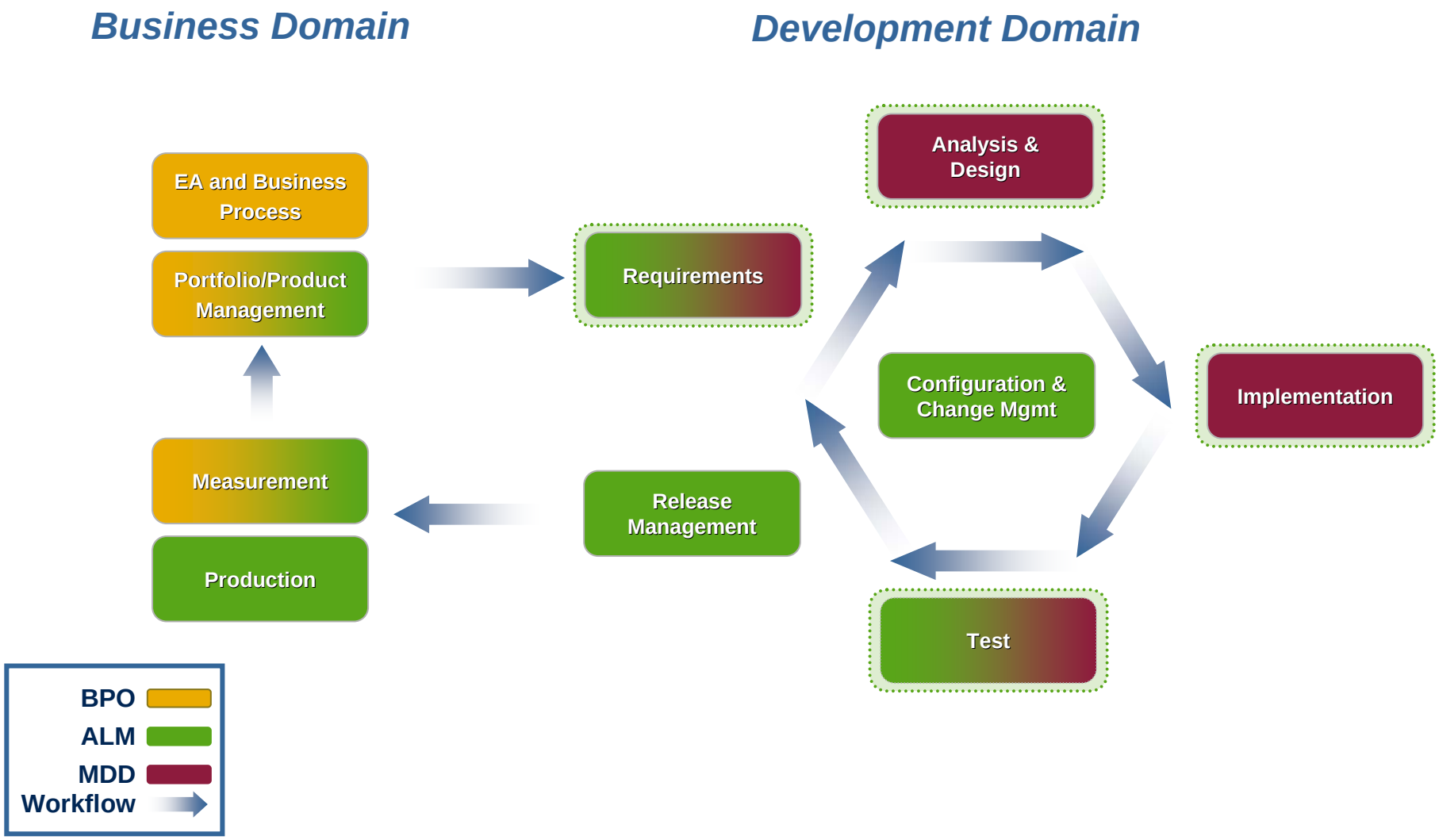


Tool Requirements



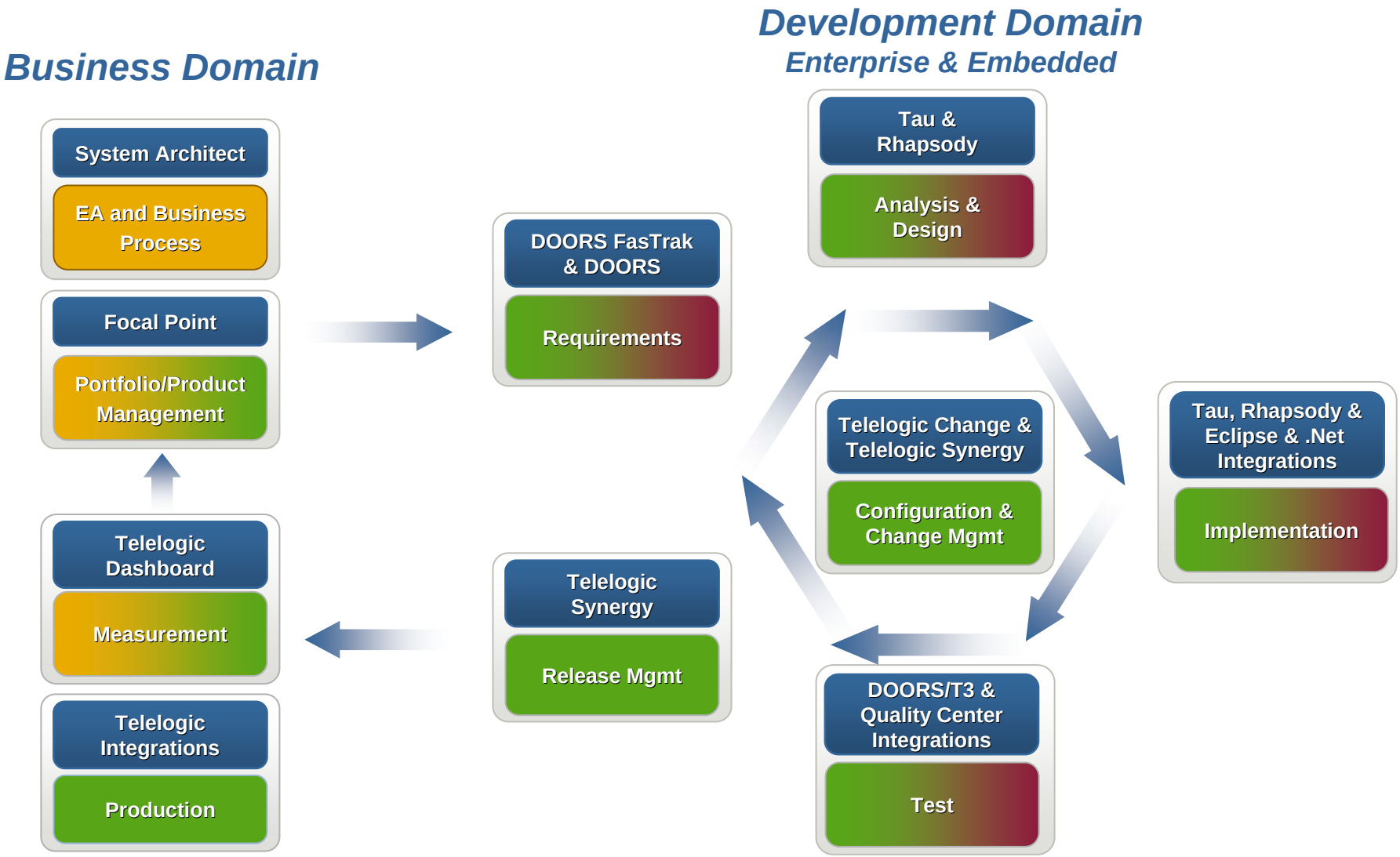
- Customise view of requirements
  - Filter for relevant requirements
  - Filter for requirements under discussion
  - Use templates to ensure full coverage
- Attributes
  - Use for rationale
  - Use for classification and filtering
  - Use for status tracking
- Traceability
  - Link system requirements to stakeholder requirements
  - Link customer dialogue to system requirements
  - Track changes to requirements
- Systems engineering lifecycle support
  - Link requirements to model
  - Control changes to all configuration items
  - Transition between integrated tools with hyperlinks

Enterprise Lifecycle Management



Enterprise Lifecycle Management

The Telelogic Product Portfolio



DOORS

Dynamic Object Oriented Requirements System

DOORS 8.3 (81db).lnk