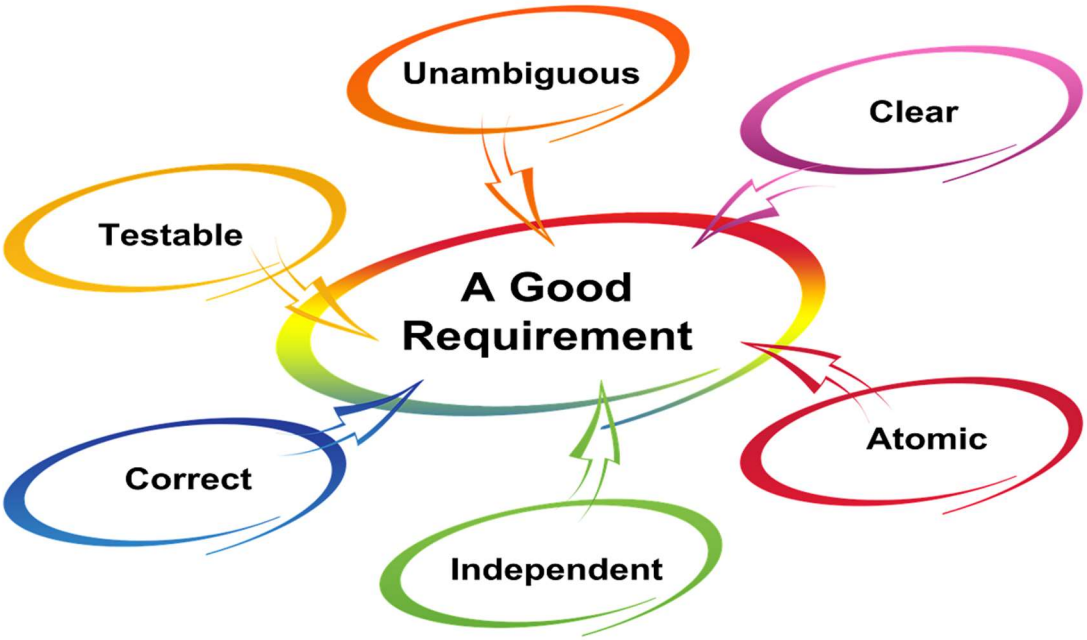
GOOD REQUIREMENT



Requirement is an omnipresent concept and a key artifact in the specification of any new Product. It is supposed to be both the expression of the expected or the feared, and the referential for testing and posing verdict to assess the conformance of the realized. Within MBSE approach, models are also supposed to reflect the requirement structure that they dynamically illustrate.

Requirement concept has yet a paradoxical standing. It is expressed in natural language, contextual by nature, and endowed with qualitative features while supposed to be a standalone reference for such activities as modelling and testing, rooted in mathematic-based languages. This paradox is neither overcome nor even diagnosed in system-engineering such as it is, despite never ending failures in endowing the requirement concept with a rigorous character and despite the numerous tools developed to construct, manage and trace "requirements", without objectified added value.

The work we have conducted over more than twenty years, rooted in the most fundamental science, has led to a fruitful formal method, but at the price of a complete upheaval in the way of conceptualizing Reality: Relativized System Engineering[1], Relativized Information Management[2], **both based on** Relativized Systemic[3].

This method has proven all its potentiality through operational applications in both engineering and information system development. It may be regarded as a unifying framework for any technical-scientific discipline, such as energy centered classical physic, and, beyond, for any

[1] See http://mersyse/en/isr_features.php
[2] See http://mersyse/en/rim_overview.php
[3] See https://www.amazon.fr/Syst%C3%A9mique-Relativis%C3%A9e-Essences-conceptualisations-R%C3%A9el/dp/6138478835

"complex" development characterized by multiple stakes and massively shared resources, most often software centered.

At this point, we have felt like considering the classical features associated with the requirement concept, to pinpoint the weaknesses at the very origin of our motivation and to provide some insight as to the new standing they get within RS framework.

As a reference to proceed, we have chosen the feature list one can find in Mastering the Requirements Process: Getting Requirements Right, 3rd Edition, Suzan & James Robertson, 01/08/2012 – Addison Wesley :

"

1.4 Characteristics of a Good Requirement

A requirement needs to meet several criteria to be considered a "good requirement". Good requirements should have the following characteristics:

- *Unambiguous*
- *Testable (verifiable)*
- *Clear (concise, terse, simple, precise)*
- *Correct*
- *Understandable*
- *Feasible (realistic, possible)*
- *Independent*
- *Atomic*
- *Necessary*
- *Implementation-free (abstract)*

Besides these criteria for individual requirements, three criteria apply to the set of requirements. The set should be:

- *Consistent*
- *Nonredundant*
- *Complete*

"

To proceed through relatively short articles, we'll deal each week with one of the items hereabove mentioned… and to start with, the "unambiguous" requirement whose publication follows.

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