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Software Requirements

**Important points**

“A requirement defines a property or capability that must be exhibited by a system in order for it to solve the business problem for which it was conceived. Thousands of requirements, of different kinds and at different levels of abstraction, may be needed to specify a system that addresses a challenging business problem.” [125]

“One of the main tasks of requirements analysis is to elaborate the system requirements to discover more about the implications of satisfying them.” [126]

“A requirements engineering (RE) process must transform a business problem into a specification of the properties of a system that will provide an appropriate solution to the problem. Arriving at a solution specification requires the application of a systematic and rigorous process in order to understand the problem and the impact of a range of possible solutions.” [127]

“In some domains, it is impossible to identify all the requirements that will serve to define a product for its expected service life. If the product’s environment is volatile, the product’s requirements will also be volatile.” [128]

“A large system will have many different stakeholders and in most cases these will be the primary sources of the requirements. Indeed, any project that does not engage with the people who will actually pay for and use the proposed system is bound to fail.” [129]

“The use of scenarios and workshops does not preclude the use of other techniques and may not be the best techniques for every project. Some stakeholders may be unwilling or unable to participate in workshops or may find scenarios an awkward mechanism for articulating their requirements.” [130]

“Requirements analysis is about understanding the problem and synthesizing a set of requirements that specify the best solution. Analysis is needed to help deepen understanding of the problem and what is required, and to detect and resolve problems such as inconsistencies and incompatibility with the requirements.” [131]

“The cost and technical implications of system requirements are often unclear and this makes them hard to assess and validate. To make the implications clear, it is usually helpful to elaborate the system requirements by deriving new requirements that focus on finer-grained properties of the proposed system.” [132]

“The derivation of requirements is not confined to functional requirements. High-level expressions of nonfunctional requirements need to be explored and have detail added too. They need to be quantified or transformed into a set of equivalent functional requirements.” [133]

“The stakeholders need to approve the requirements baseline by accepting that some requirements will make the cut but others will not.” [134]

“The set of requirements specified in the requirements specification must accurately reflect what is needed to solve the underlying business problem, subject to the various constraints that act upon them. This concerns not just the correctness of individual requirements, but the correctness, completeness, and consistency of the specification as a whole.” [135]

“Requirements management is a crucial but often neglected task.” [136]

“Changes need to be communicated to the development team and this requires the issuing of new versions of the requirements specification.” [137]

“Software requirements come from real business problems.” [138]

**Disagreements**

“Software requirements are always derived from some business problem such as processing passport applications, improving automotive safety systems, or adding features to cell phones.” [125]

The author states here that software requirements only come from one place. That place is the problem that needs to be fixed. Not only is this thinking naïve in assuming that all requirements are inherently ‘good requirements’, but it also neglects requirements that do not come from the business problem domain. Examples of these are requirements stemming from the limitations of technology or business driven requirements that are not part of the problem domain. In a more perfect world, we also wouldn’t have to deal with ‘power struggle requirements’ or requirements that should not even be requirements that some stakeholders will inevitably try to push through. There are many different stakeholders with many different investments in the product. All have important input and are needed. Therefore, not all requirements can come exclusively from the business problem domain.

**Questions**

I have no questions. I understood everything in the article.