

An Ontology for Requirements

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Abstract. In the good old days, the world of Requirements Engineering (RE) was simple: there were functional requirements to be modelled, somehow, and non-functional ones that usually consisted of a product quality wish list. Solving a particular requirements problem amounted to (loosely-understood) accommodation of functional requirements and doing one's best with non-functional ones. This world changed dramatically with the advent of Goal-Oriented Requirements Engineering. The primitive concepts in terms of which requirements are now conceived are no longer functions, states and things. Instead, the brave new world is populated with goals, stakeholder intentions and social settings.

We review, contrast and compare some of the new and old concepts, including goal, intention, function, preference, priority, softgoal, quality, criterion, and non-functional requirement. In addition, we attempt to organize them into a new ontology for requirements. We also present first results on a theory of requirements where, given a requirements problem, we define precisely what is a solution and what is an optimal solution.