Fundamentals of Requirements Engineering

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Abstract

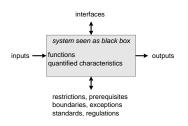
Requirements engineering is one of the systems engineering pillars. document we discuss the fundamentals of systems engineering, such as the transformation of needs into specification, the need to prescribe what rather than how, and the requirements when writing requirements.

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Definition of "Requirement"

Requirements describing the needs of the customer: Customer Needs

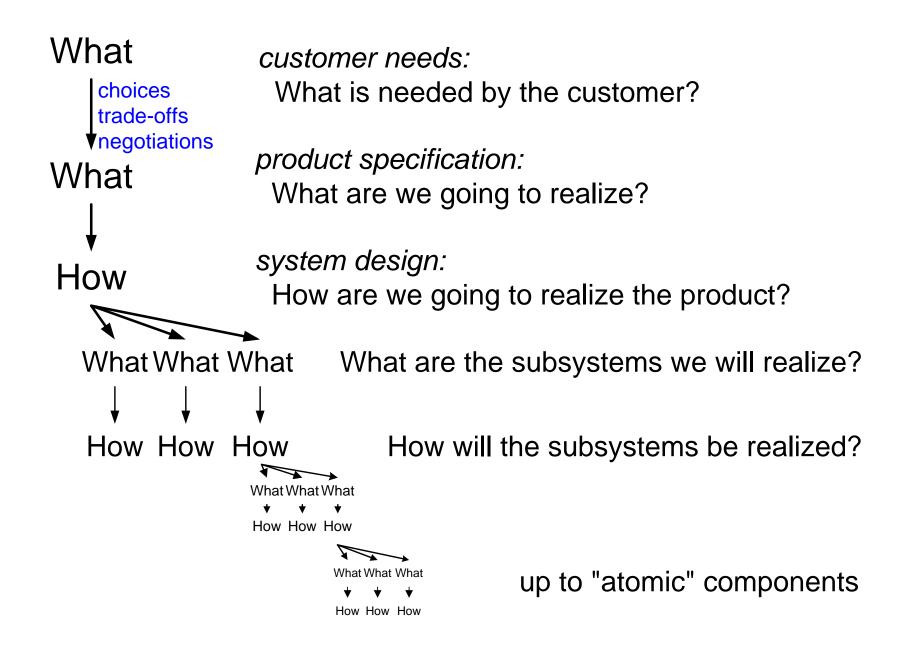
Requirements describing the characteristics of the final resulting product: *Product Specification*

The requirements management process recursively applies definition 2 for every level of decomposition.

Requirements describing the needs of the company itself over the life cycle: *Life Cycle Needs*

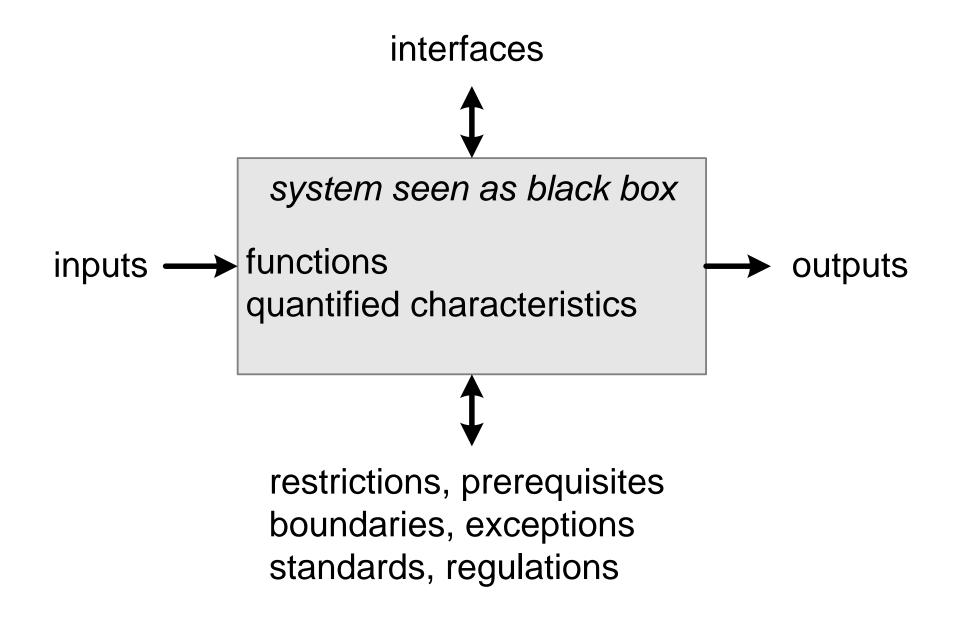


Flow of Requirements





System as a Black Box



Stakeholders w.r.t. Requirements

customer

(purchaser, decision maker, user, operator, maintainer)

company

Policy and Planning (business, marketing, operational managers)

Customer-Oriented Process (sales, service, production, logistics)

Product Creation Process (project leader, product manager, engineers, suppliers)

People, Process, and Technology management process (capability managers, technology suppliers)



The "Formal" Requirements for Requirements

Specific

Unambiguous

Verifiable

Quantifiable

Measurable

Complete

Traceable



The Requirements to Enable Human Use

Accessible

Understandable

Low threshold

