Requirements DevelopmentRequirements Development Steps

Requirements Development fits into Step One of the Systems Engineering Process: Requirements Analysis. There are six (6) basic requirements development steps and really don't change depending on which model is used. All models are similar in their approach; they just depict them differently graphically.

> **Remember: The Requirements Development Process is a very comprehensive, iterative and recursive process**

Below is a list of the basic six (6) steps of requirements development.

Step 1: Develop Requirements

The first step is to gather, analyze and develop requirements from the Concept of Operations (CONOPS), stakeholder needs, objectives and other external requirement. Once requirements are documented, they are prioritized, de-conflicted, and validated with the stakeholders.

Step 2: Write and Document Requirements

The second step focuses on writing down the functional and performance requirements into the appropriate requirements documents; Initial Capabilities Document (ICD), Capability Development Document (CDD), and Capability Production Document (CPD). Requirements must be documented in order to establish a requirements baseline to start building a system and manage any changes. Requirements can be developed using the Capability Development Tracking and Manager (CDTM) tool for DoD programs.

Step 3: Check Completeness

The third step is to check that a complete set of requirements have been developed and documented that defines all system functions that are needed to satisfy the stakeholder needs with their associated performance, environmental, and other non-functional requirements. Requirement Tracing is a big tool in this step.

Step 4: Analyze, Refine, and Decompose Requirements

Requirements Analysis is the first major step in the Systems Engineering Process. This step examines each requirement to see if it meets the characteristics of a good requirement. Each requirement is then decomposed into a more refined set of requirements that are allocated to sub-systems and documented in the Weapons System Specification (WSS). Newly derived requirements are expected to emerge from this process, which continues until all requirements are defined and analyzed.

Step 5: Validate Requirements

In step five each requirement must be verified and validated to ensure that these are the

correct requirements. This ensures that the requirements meet the overall objective of the system and all stakeholder needs.

Step 6: Manage Requirements
In step six the requirements have been accepted and a baseline is established by the stakeholders. Any changes to the requirements are controlled using a Configuration Management process.

Next System Engineering Step: Functional Analysis and Allocation
Functional Analysis and Allocation is a top-down process of translating system level requirements which were just developed into detailed functional and performance design criteria. The result of the process is a defined architecture with allocated system requirements that are traceable to each system function.

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