



Requirements Gathering and Specification

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Requirements Gathering and Specification

- Requirement Engineering is the process of defining, documenting and maintaining the requirements. It is a process of gathering and defining service provided by the system. Requirements Engineering Process consists of the following main activities:
- Requirements elicitation
- Requirements specification
- Requirements verification and validation
- Requirements management





Requirements Gathering and Specification

Requirements Elicitation:

It is related to the various ways used to gain knowledge about the project domain and requirements. The various sources of domain knowledge include customers, business manuals, the existing software of same type, standards and other stakeholders of the project. It includes interviews, brainstorming etc.



Requirements specification:

This activity is used to produce formal software requirement models. All the requirements including the functional as well as the non-functional requirements and the constraints are specified by these models in totality.



Requirements Gathering and Specification

Requirements verification and validation:

Verification: It refers to the set of tasks that ensures that the software correctly implements a specific function.

Validation: It refers to a different set of tasks that ensures that the software that has been built is traceable to customer requirements.



Requirements management:

Requirement management is the process of analyzing, documenting, tracking, prioritizing and agreeing on the requirement and controlling the communication to relevant stakeholders. This stage takes care of the changing nature of requirements. It should be ensured that the SRS is as modifiable as possible so as to incorporate changes in requirements specified by the end users at later stages too.

Analysis of Gathered Requirements

- Main purpose of requirements analysis:
 - Clearly understand user requirements,
 - Detect inconsistencies, ambiguities, and incompleteness.
- Incompleteness and inconsistencies:
 - Resolved through further discussions with end-users and customers





Software Requirements Specification(SRS)



Main aim:



Systematically analyse all requirements arrived during requirements analysis.



Document requirements properly.

Sample SRS

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SRS Document



SRS document is known as black-box specification:



The system is considered as a black box whose internal details are not known.



Only visible (external input/output) behaviour are documented.



SRS document concentrates on what needs to be done about input/output behaviour.



Carefully avoids the solution ("how to do") aspects.

Properties of a Good SRS Document



It should be concise.



It should specify what the system must do.



Easy to change



It should be consistent



It should be complete.