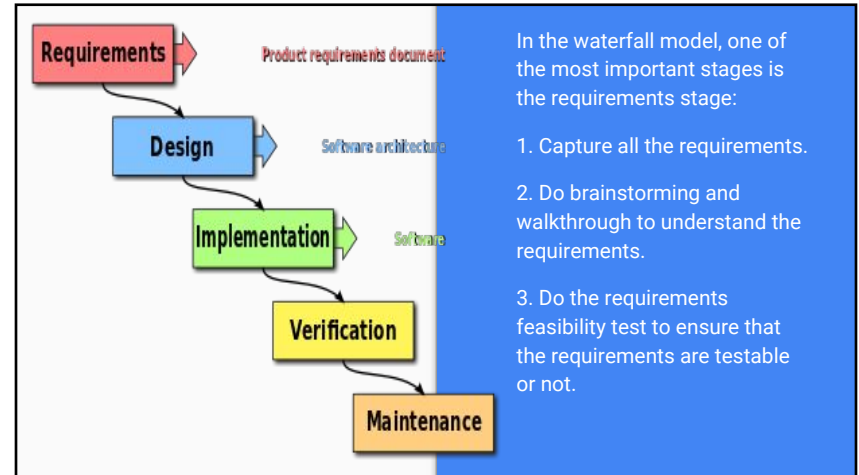


Requirements (Part of SD07)

Functional, Non-functional and User



If there is any one thing any project must have in order not to be doomed to failure, that is a sensible and comprehensive collection of both the functional and non-functional requirements.

Any project's requirements need to be well thought out, balanced and clearly understood by all involved, but perhaps of most importance is that they are **not dropped or compromised halfway through** the project.

- From an expert

WHY? Poor requirements result in:

- Expensive rework
- Late delivery
- Poor quality
- Dissatisfied customers
- Exhausted and demoralised team members

Functional Requirements: WHAT?

Any requirement which specifies what the system should do.

In other words, a functional requirement will describe a particular **behaviour** of function of the system when certain conditions are met, for example: "Send email when a new customer signs up" or "Open a new account".

A functional requirement for a milk carton would be "ability to contain fluid without leaking"

Typically, functional requirements will specify a behaviour or function, for example:

"Display the name, total size, available space and format of a flash drive connected to the USB port.

Non-Functional Requirements- HOW?

Typical non-functional requirements include:

Performance – for example: response time, throughput, utilization, static volumetric

Reliability & Recoverability

Maintainability & Serviceability

Usability

=> No crashes, easy to follow, update and use!

A non-functional requirement for a cup holding hot tea would be: "contain hot liquid without heating up to more than 45 °C" (not too hot to hold).

A website/app may DO everything required, but how WELL does it do it?

If you ever get insurance quotes, what websites do a better job than others of supplying the quote? WHY?

User Requirements:

URD: Specifies user expectations:

- From the users point of view
- Tasks to be accomplished but NOT how!
- Critical and necessary for success

They must be:

- SMART
- Within budget
- Helpful to build the system

Users include not only the general user, but all stakeholders:

- Users
- Administrators
- Managers
- Controllers
- Etc. There could be more!

Depends on the program being created!!!!!!

User requirement modelling

User req. Analyst: works with stakeholders to elicit, analyze, specify, validate, and manage the project's requirements.

user: will interact with a system either directly or indirectly

user class: A group of users for a system who have similar characteristics and requirements for the system.

use case: A description of an interaction between an actor and a system that results in an outcome that provides value to the actor.

use case diagram: An analysis model that identifies the actors who can interact with a system to accomplish valuable goals and the various use cases that each actor will perform.

user requirement: User goals or tasks that users must be able to perform with a system, or statements of the user's expectations of system quality.

actor: A person, software system, or hardware device that interacts with a system to achieve a useful goal. Also called a user role.