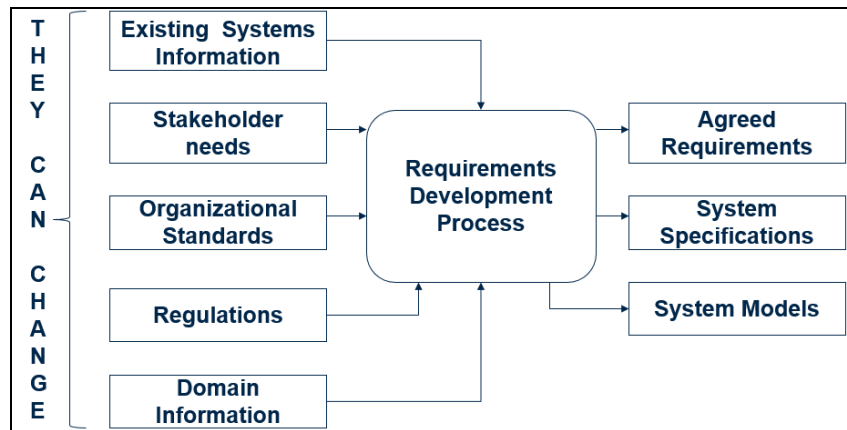# Requirement Management

What is Requirement Management?

Requirements management is the process of documenting, analyzing, tracing, prioritizing and agreeing on **requirements** and then controlling change and communicating to relevant stakeholders. It is a continuous process throughout a project.

Why do requirements change?

– Initial elicitation activities are imperfect

– The priority of requirements from different viewpoints changes during the development process

– Business needs evolve

– Customers may specify requirements from a business perspective that conflict with end-user requirements

– Customer's expectations change once they see the product taking shape

– The business and technical environment of the system changes during its development

Requirements Classification

Stable Requirements: They are related to the core activities of the system and its domain

Volatile Requirements: These are requirements that are likely to change during the system development process or after the system has been become operational.
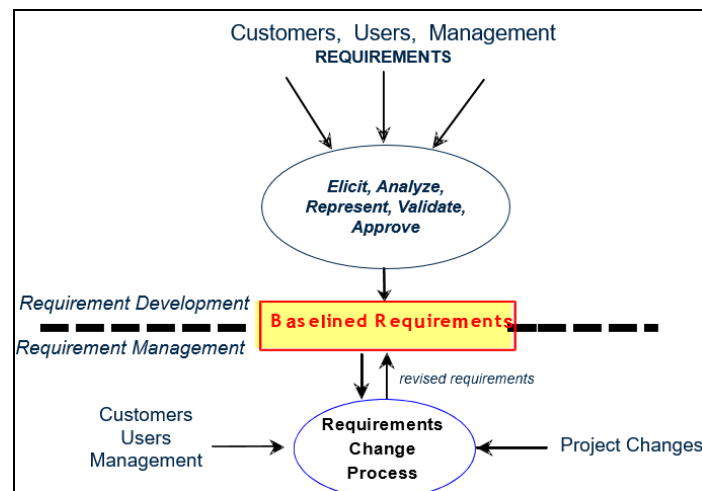
Volatile requirements are classified as shown in below diagram.

Requirement type	Description
Mutable requirements	Requirements that change because of changes to the environment in which the organisation is operating. For example, in hospital systems, the funding of patient care may change and thus require different treatment information to be collected.
Emergent requirements	Requirements that emerge as the customer's understanding of the system develops during the system development. The design process may reveal new emergent requirements.
Consequential requirements	Requirements that result from the introduction of the computer system. Introducing the computer system may change the organisations processes and open up new ways of working which generate new system requirements.
Compatibility requirements	Requirements that depend on the particular systems or business processes within an organisation. As these change, the compatibility requirements on the commissioned or delivered system may also have to evolve.

What is Baselining Requirements?

Usually projects start with unclear requirements and expectations. Lack of base lined requirements can result in chaos with lots of requirements changes resulting in requirements and scope creeps. Baselines can also help in acceptance testing and prototyping efforts. Baselines are especially valuable in fixed price contracts.

A **requirements baseline** is a snapshot in time that represents the agreed-upon, reviewed, and approved set of **requirements** committed to a specific product release. That "release" could be a complete delivered product or any interim development increment of the product.

Requirements Traceability

The degree to which a relationship can be established between two or more products of the development process, especially products having a predecessor-successor or master-subordinate relationship to one another."

Types of Requirements Traceability

- **Forward traceability**: This traceability is used to validate whether the project is evolving in the desired direction and for the right product

- **Backward or reverse traceability:** This traceability is used to validate that the product development is on the correct path of its development

- **Bi-directional traceability:** This traceability ensures that all requirements are covered by test cases
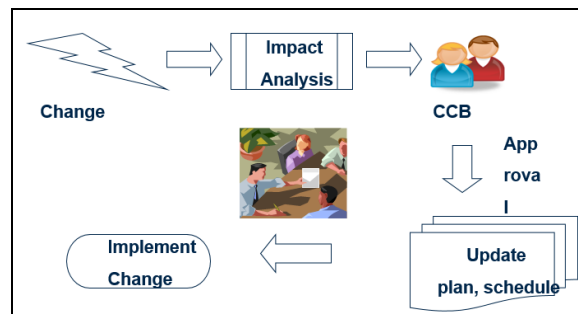
Requirement Traceability Matrix format

Test Case ID	TDR ID	BR ID
TC_1	TDR_29	BR_1

Change Management Process

The "Change Management" process is the sequence of steps or activities that a change management team or project leader would follow to apply change management to a project or change.

A change management process consists of number of predefined processes and standards to be followed to manage changes to the system requirements.

Requirement Creep

Requirement creep in project management refers to uncontrolled changes in the requirement during product development beyond those originally foreseen, leading to features that weren't originally planned and resulting risk to product quality or schedule

What causes requirement creep?

- Lack of change control - Gold Plating - Unwillingness to say no to a client - One little change won't matter	- Poor requirement analysis - Not involving customers early though - Insufficient detailing on the complexity of the project