

Requirements Management

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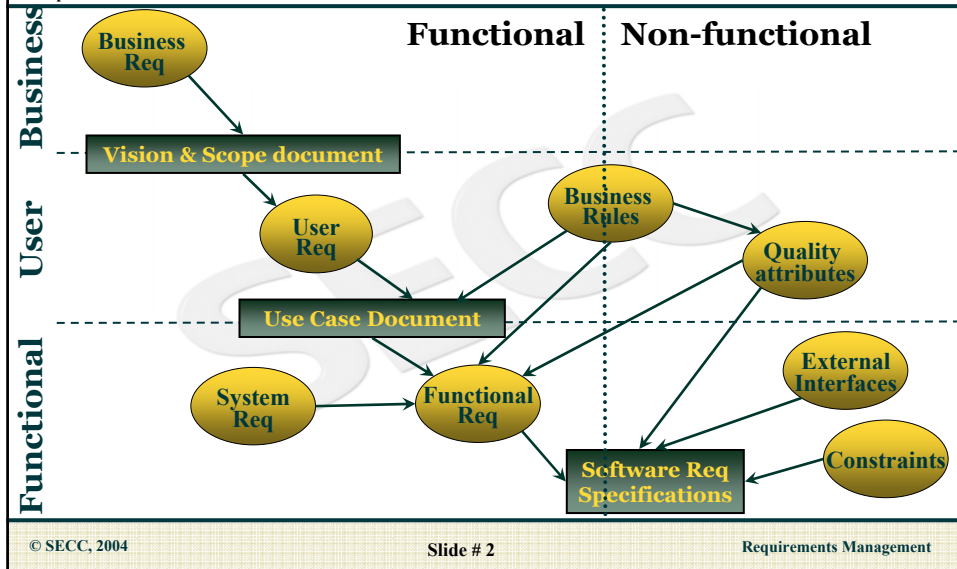


The Requirements Management (RM) Process

- Introduction
 - ◆ Requirements and various stakeholders groups
 - ◆ How requirements relate to other project processes
 - ◆ Process Fundamentals
- The RM process in the SPI Guide
 - ◆ Assumptions
 - ◆ Goals and policies
 - ◆ Process description
- Available Process Resources



Software Requirements



Risks Associated with Requirements

- Insufficient involvement from stakeholders
 - ♦ Development team do not understand the user's working environment
 - ♦ Overlooked user classes
- Requirements are not **WELL** documented
 - ♦ Ambiguous requirements
 - ♦ Minimal specifications
- Inaccurate planning
 - ♦ Stakeholders don't understand the true impact of requested changes.
 - ♦ Changes in the deployment environment
- Difficulty in defining **REAL** requirements
 - ♦ Creeping user requirements
 - ♦ Gold plating



Components of the RM Process*

- **Process models** – define the process' building blocks (CMM-> goals, policies, process description)
- **Process stakeholders** – identify the main process participants
- **Support and management** – link the process activities to cost, human resources, training, tools.
- **Quality and improvement** – provide means for process improvement

*The IEEE Software Engineering Body of Knowledge, 2004



Process Assumptions

- Each project:
 - ◆ starts the RM activities with project kick-off.
 - ◆ enacts RM activities continuously until project wrap-up.
 - ◆ assigns personnel for carrying out the RM responsibilities.
 - ◆ starts project planning activities after the delivery of the software requirements specifications document.



Process Models – Goals

- **Goal I:**

The software requirements are controlled to establish a baseline for software development cycles.

- **Goal II:**

Software plans, activities and work products are kept consistent with the requirements.



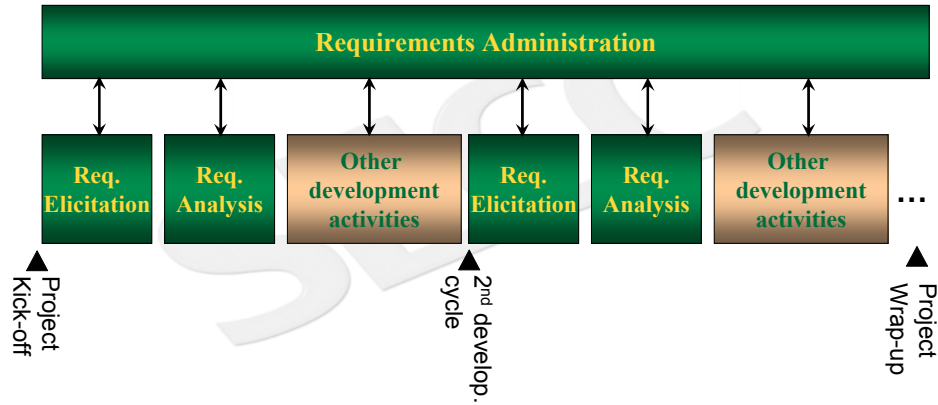
Process Models – Policies

- Policies of the RM process must assure that:

- ◆ The support and management needs of the process are addressed (personnel, funding, training).
- ◆ The process is properly enacted.
- ◆ The process deliverables are correct and properly managed.
- ◆ All process participants are involved in the process.

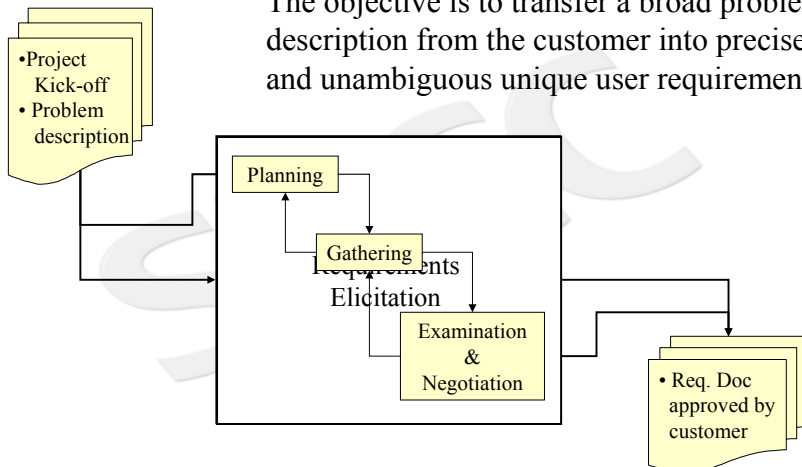


Process Models – Description



Requirements Elicitation (RM100)

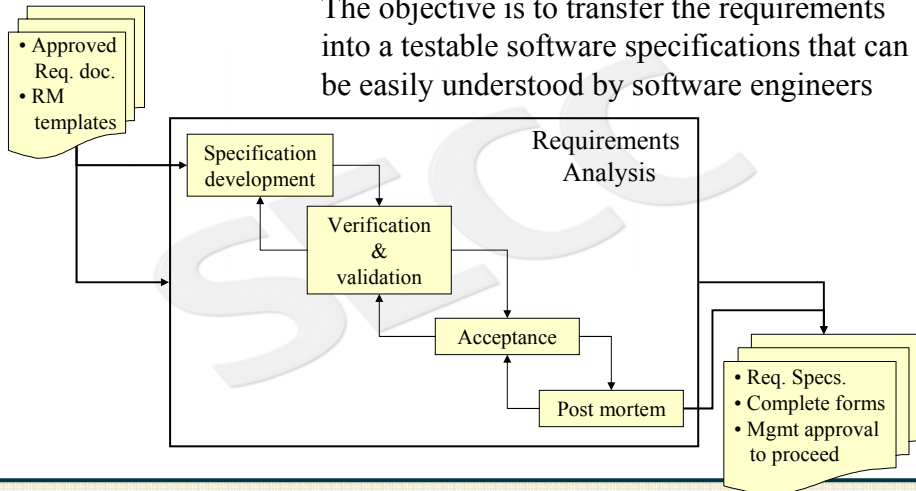
The objective is to transfer a broad problem description from the customer into precise, and unambiguous unique user requirements





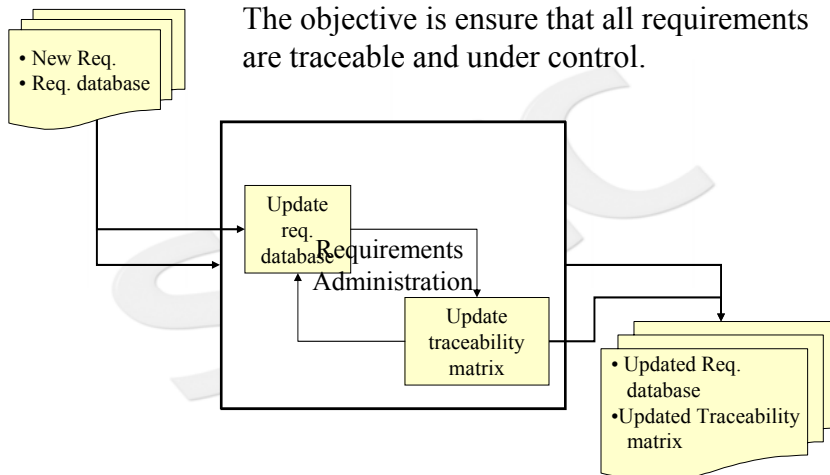
Requirements Analysis (RM200)

The objective is to transfer the requirements into a testable software specifications that can be easily understood by software engineers



Requirements Administration (RM300)

The objective is ensure that all requirements are traceable and under control.





Quality and Improvements

- Post-mortem sub-process
 - ◆ A sub-process dedicated for assuring the quality of the elicitation and analysis cycle.
- Metrics
 - ◆ Completeness
 - ◆ System growth & stability



Available Process Resources

- ◆ **Tools:**
 - Implementation guidelines
 - Checklists:
 - requirements elicitation checklist,
 - requirements review checklist
- ◆ **Templates:**
 - Software Requirements Specification,
 - Requirements elicitation form,
 - Requirements prioritization form



Thank You