

4 Lecture - CS504

Important Subjective

What is the role of a stakeholder in requirement engineering? **Answer:** Stakeholders are individuals or groups with an interest or influence in the software project. They provide valuable input, requirements, and feedback to ensure that the software meets their needs.

Explain the concept of requirements traceability and its importance. **Answer:** Requirements traceability refers to the ability to track and link requirements throughout the software development lifecycle. It helps in understanding the impact of changes, managing requirements, and ensuring that all requirements are addressed and implemented.

What are some common challenges in requirement prioritization, and how can they be addressed? **Answer:** Challenges include conflicting priorities, limited resources, and changing stakeholder preferences. Addressing these challenges involves effective stakeholder communication, data-driven decision-making, and considering the overall project goals.

How can requirements validation be conducted effectively? **Answer:** Requirements validation can be conducted through techniques such as reviews, inspections, walkthroughs, and prototyping. It involves evaluating the requirements for correctness, completeness, and consistency.

Describe the concept of requirement change control and its benefits. **Answer:** Requirement change control involves managing and documenting changes to requirements. It helps in maintaining control over project scope, ensuring proper impact analysis, and preventing unauthorized or uncontrolled changes.

How can requirements be effectively documented to ensure clarity and understanding? **Answer:** Requirements can be documented using standardized templates, diagrams, and natural language descriptions. Clear and concise language, visual aids, and proper organization contribute to better understanding and communication.

What are some techniques for managing conflicts among requirements? **Answer:** Techniques include negotiation, compromise, and trade-off analysis. Stakeholder involvement, effective communication, and a focus on prioritizing requirements based on business value can help in resolving conflicts.

Explain the concept of requirements review and its benefits. **Answer:** Requirements review involves evaluating and validating requirements for correctness, consistency, and clarity. It helps in identifying and rectifying issues, reducing rework, and improving the overall quality of requirements.

How can traceability matrices aid in requirements management and change impact analysis? **Answer:** Traceability matrices provide a structured view of relationships between requirements, design elements, test cases, and other artifacts. They aid in impact analysis, change management, and ensuring that all requirements are properly addressed.

Describe the role of prototyping in requirement engineering and its benefits. **Answer:** Prototyping involves creating a working model or representation of the software to gather feedback and validate requirements. It helps stakeholders visualize the system, identify usability issues, and refine requirements before final implementation.