

5 Lecture - CS504

Important Subjective

Explain the relationship between user stories and functional requirements in software requirements. **Answer:** User stories provide a high-level description of user needs, while functional requirements define the specific functionality that meets those needs. User stories help inform the creation of functional requirements by capturing user perspectives and guiding the development process.

How do non-functional requirements complement functional requirements in software development? **Answer:** Non-functional requirements address aspects such as performance, security, reliability, and usability. They complement functional requirements by specifying the quality attributes and constraints that must be considered to ensure the overall success of the software system.

Describe the role of use cases in software requirements and their relationship with functional requirements. **Answer:** Use cases describe interactions between users and the system. They provide detailed scenarios and help validate the functionality described in functional requirements. Use cases support the understanding of system behavior, guide testing efforts, and help identify and resolve potential issues.

What is the significance of traceability between different components of software requirements? **Answer:** Traceability ensures that all components of software requirements, such as user stories, functional requirements, and use cases, are linked and aligned. It allows for tracking and verifying the consistency, completeness, and correctness of requirements throughout the software development lifecycle.

How can user stories influence the prioritization of functional requirements? **Answer:** User stories capture user needs and provide insights into the relative importance of different features. These insights can be used to prioritize functional requirements, ensuring that the most critical user needs are addressed first during the development process.

Discuss the relationship between non-functional requirements and system architecture in software development. **Answer:** Non-functional requirements, such as scalability, performance, and security, directly impact system architecture. The design of the architecture should consider and accommodate these requirements to ensure the desired system behavior and performance levels are achieved.

Explain how use cases help in validating the functional requirements of a software system. **Answer:** Use cases provide detailed scenarios of user interactions with the system. By validating these scenarios against the functional requirements, any discrepancies or gaps in the system's intended behavior can be identified and addressed during the development and testing stages.

Describe how user stories and use cases can complement each other in software requirements. **Answer:** User stories provide a user-centric perspective, focusing on the "what" and "why" of system functionality. Use cases, on the other hand, provide detailed descriptions of "how" users interact with the system. Together, user stories and use cases provide a comprehensive understanding of user needs and system behavior.

How can changes in user stories impact functional requirements during the software development process? **Answer:** Changes in user stories may require corresponding changes in functional requirements to align with the evolving understanding of user needs. It is important to maintain synchronization between user stories and functional requirements to ensure the delivered software meets the intended user expectations.

Discuss the relationship between non-functional requirements and user experience (UX) design in software development. **Answer:** Non-functional requirements, such as usability and user interface responsiveness, directly impact the user experience (UX) design. UX design focuses on creating an intuitive and satisfying user experience, taking into account non-functional requirements to meet user expectations and ensure a positive interaction with the

software system.