**Module-3**

1. **Clear and Unambiguous**: Good requirements are expressed in clear and straightforward language, free from ambiguity or confusion. They should be easily understandable by all stakeholders, including developers, testers, and end-users.
2. **Complete**: Good requirements capture all necessary functionality and constraints of the system. They leave no room for interpretation or assumptions, covering both functional and non-functional aspects comprehensively.
3. **Consistent**: Requirements should be consistent with each other and with the overall goals of the project. There should be no contradictions or conflicts between different requirements, ensuring a coherent and unified vision for the system.
4. **Traceable**: Requirements should be traceable throughout the software development lifecycle, from their origin through design, implementation, testing, and deployment. Traceability helps ensure that all requirements are addressed and implemented correctly.

**Understandable by Stakeholders**: Good requirements are accessible to all stakeholders, regardless of their technical expertise.

1. **Testable**: Good requirements are verifiable through testing. They are specific enough to allow for the creation of test cases that can confirm whether the implemented system meets the specified requirements.

**Non-functionalities**

**The list you provided includes various non-functional requirements and quality attributes that are commonly considered in the design and evaluation of software systems. Here's a brief explanation of each term:**

**1. Performance:**

**- Response Time: The time taken for a system to respond to a request or input.**

**- Throughput: The amount of work a system can handle within a given time period.**

**- Utilization: The degree to which a system's resources (e.g., CPU, memory, network) are being used.**

**- Static Volumetric: Refers to the ability of a system to handle large volumes of data or information at a specific point in time.**

**2. Scalability: The ability of a system to handle increasing workloads by adding or removing resources.**

**3. Capacity: The maximum workload or number of users/requests a system can handle within its specified performance requirements.**

**4. Availability: The degree to which a system is accessible and operational when required for use.**

**5. Reliability: The ability of a system to perform its required functions under stated conditions for a specified period.**

**6. Recoverability: The ability of a system to recover from failures, errors, or unexpected situations.**

**7. Maintainability: The ease with which a system can be modified or updated to correct faults, improve performance, or adapt to changing requirements.**

**8. Serviceability: The ability of a system to undergo routine maintenance and repairs without significant disruption to its operation.**

**9. Security: The protection of a system against unauthorized access, data loss, or misuse.**

**10. Regulatory: Compliance with relevant laws, regulations, and industry standards.**

**11. Manageability: The ability to efficiently monitor, control, and manage a system's operations and resources.**

**12. Environmental: The system's impact on the environment, including energy consumption, resource utilization, and waste management.**

**13. Data Integrity: The accuracy, completeness, and consistency of data maintained by the system.**

**14. Usability: The degree to which a system is easy to learn, operate, and understand for its intended users.**

**15. Interoperability: The ability of a system to seamlessly communicate, exchange data, and operate with other systems or components.**

**These non-functional requirements and quality attributes are essential considerations in the design, development, and evaluation of software systems, as they define the system's operational characteristics, constraints, and overall quality. They help ensure that the system meets the desired performance, reliability, security, and other critical requirements beyond just functional specifications.**