

Non-Functional Requirements

As Identified in BABOK® v3:

- **Availability:** degree to which the solution is operable and accessible when required for use, often expressed in terms of percent of time the solution is available.
- **Compatibility:** degree to which the solution operates effectively with other components in its environment, such as one process with another.
- **Functionality:** degree to which the solution functions meet user needs, including aspects of suitability, accuracy, and interoperability.
- **Maintainability:** ease with which a solution or component can be modified to correct faults, improve performance or other attributes, or adapt to a changed environment.
- **Performance Efficiency:** degree to which a solution or component performs its designated functions with minimum consumption of resources. Can be defined based on the context or period, such as high-peak, mid-peak, or off-peak usage.
- **Portability:** ease with which a solution or component can be transferred from one environment to another.
- **Reliability:** ability of a solution or component to perform its required functions under stated conditions for a specified period of time, such as mean time to failure of a device.
- **Scalability:** degree with which a solution is able to grow or evolve to handle increased amounts of work.
- **Security:** aspects of a solution that protect solution content or solution components from accidental or malicious access, use, modification, destruction, or disclosure.
- **Usability:** ease with which a user can learn to use the solution.
- **Certification:** constraints on the solution that are necessary to meet certain standards or industry conventions.
- **Compliance:** regulatory, financial, or legal constraints which can vary passed on the context or jurisdiction.
- **Localization:** requirements dealing with local languages, laws, currencies, cultures, spellings, and other characteristics of users, which require attention to the context.
- **Service Level Agreements:** constraints of the organization being served by the solution that are formally agreed to by both the provider and the user of the solution.
- **Extensibility:** the ability of a solution to incorporate new functionality.

Category	What Is Verified?	Example Requirement	Verified During
Availability	Is the system available for use as specified?	The training registration site shall be available 98% of the time.	System
Compatibility	Does the software operate effectively with other components in its environment?	The hand-held device must support connection to external speakers or headsets using Bluetooth v2.0 or higher.	Integration System
Functionality	To what degree does the solution meet user needs?	The selected software package must satisfy 100% of critical functional requirements without customization or scripting.	System
Maintainability	Is the software relatively easy to operate and repair?	Updates to the map data shall not require modifications to the user interface.	System
Performance Efficiency	Does the system perform as expected in terms of concurrent users, response times, and capacity?	The system shall be able to process 100 payment transactions per second.	System
Portability	How easily can the software be transferred to a different hardware or software environment?	Porting the application from iOS to Android shall not require modifying more than 0.5% of the lines of source code.	Post-Implementation
Reliability	Can the solution perform its functions under stated conditions for an acceptable period of time?	The camera must be able to survive a 2-foot drop with no loss of function.	System
Scalability	Will the solution grow or evolve to handle increased amounts of work?	The system must be scalable to accommodate up to 10 users in each of 100 branch offices.	Post-Implementation
Security	Does the solution guard against improper access or use?	The system shall require users to re-identify each time they attempt to access or modify their user profile.	System

Category	What Is Verified?	Example Requirement	Verified During
Usability	How easily can the user learn to use the solution?	99% of users shall be able to successfully perform their assigned tasks after receiving no more than 2 hours of instruction.	System User Acceptance Testing
Certification	Does the solution comply with industry standards or conventions?	All medical diagnostic codes must use International Statistical Classification of Disease and Health Related Problems ICD-9 format.	System
Compliance	Does the solution comply with regulatory, financial, or legal constraints?	When disposing of electronic media containing Personal Health Information, NISP SP 800-88 Guidelines for Media Sanitization must be followed.	System
Localization	Is the solution adapted for the localities in which it will be used?	The application shall use target country conventions for date formatting.	System
Service Level Agreements	Has the solution been designed to meet constraints agreed upon by the provider and the user of the solution?	90% of Level 1 defects will be researched, resolved, and fixed within 24 hours.	Post-Implementation
Extensibility	Will the solution be able to incorporate desired new functionality?	A new "Policy Type Code" must be able to be added to the system within 3 business days.	Post-Implementation

