CLIENT	QRA Corp
PROJECT	Best practices guide
OBJECTIVE	Demonstrate the company's authority in the requirements engineering domain.

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6. Make sure each requirement is testable.

"Each requirement shall be assigned a project-unique identifier to support testing and traceability and shall be stated in such a way that an objective test can be defined for it."

> – Software Requirements Specification (SRS) Data Item Description (DID), MIL-STD-498.

Since appearing in the referenced standard over 20 years ago, that requirement has appeared in a number of subsequent standards and in scores of requirements documents and templates. Yet, it's surprising how many requirements – *written under those same standards* – fail to meet the second half of that requirement.

Every time you write a new requirement, you must ask yourself, *"How will successful implementation of this requirement be verified?"* Writing your requirement with a specific test scenario in mind will help ensure that both design and test engineers understand exactly what they have to do.

Of course, the nature of the test scenario – the manner in which the requirement will be verified – will influence how narrowly the requirement has to be defined. Higher level requirements are often tested by inspection or through user testing (flight testing, test driving, etc.) and thus may be quite broad in scope. Lower level requirements that will be verified through software testing or system integration testing must normally be specified to a finer degree of detail.

A good practice for insuring software requirement testability, for example, is to specify a reaction time window for any output event the software must produce in response to a given input condition, as in the following example:

3.8.5.3.1: The Engine Monitor shall set <Overtemp Alert> to TRUE within 0.5 seconds when <Engine Temp> equals or exceeds 215° F.

> *"In a nutshell, John did a fantastic job with the project His writing was clear, his content thoughtful, and the end deliverable was exactly what we were looking for."*
>
> Trevor Bradley
> Marketing Manager
> QRA Corp