BEST PRACTICE
Acceptance Test Execution

The execution of the test plan should be performed in accordance with the test plan. This section will focus on:

- Execute the Acceptance Test Plan
- Acceptance Decision

Execute the Acceptance Test Plan

The objective of this step is to determine whether the acceptance criteria have been met in a delivered product. This can be accomplished through reviews, which involve looking at interim products and partially developed deliverables at various points throughout the developmental process. It can also involve testing the executable software system. The determination of which (or both) of these techniques to use will depend on the criticality of the software, the size of the software program, the resources involved, and the time period over which the software is being developed.

Software acceptance criteria should be specified in the formal project plan. The plan identifies products to be tested, the specific pass/fail criteria, the reviews, and the types of testing that will occur throughout the entire life cycle.

Acceptance decisions need a framework in which to operate. Items such as contracts, acceptance criteria, and formal mechanisms are part of this framework. Software acceptance must state or refer to specific criteria that products must meet in order to be accepted. A principal means of reaching acceptance in the development of critical software systems is to hold a periodic review of interim software documentation and other software products.

A disciplined acceptance program for software of any type may include reviews as a formal mechanism. When the acceptance decision requires change, another review becomes necessary to ensure that the required changes have been properly configured and implemented and that any affected segments are acceptable. For large or complicated projects, several reviews may be necessary during the development of a single product.

Some software acceptance activities may include testing pieces of the software; formal software acceptance testing occurs at the point in the development life cycle when the user accepts or rejects the software. This means a contractual requirement between the user and the project team has been met. Rejection normally means additional work must be done on the system in order to become

acceptable to the user. Final software acceptance testing is the last opportunity for the user to examine the software for functional, interface, performance, and quality features prior to the final acceptance review. The system at this time must include the delivered software, all user documentation, and final versions of other software deliverables.

Acceptance Decision

Final acceptance of software based on software acceptance testing usually means that the software project has been completed, with the exception of any caveats or contingencies. Final acceptance for the software occurs, and the developer has no further development obligations (except, of course, for maintenance, which is a separate issue).

Typical acceptance decisions include:

- Required changes are accepted before progressing to the next activity.
- Some changes must be made and accepted before further development of that section of the product; other changes may be made and accepted at the next major review.
- Progress may continue and changes may be accepted at the next review.
- No changes are required and progress may continue.

The goal is to achieve and accept “perfect” software, but usually some criteria will not be completely satisfied for each product, in which case the user may choose to accept less-than perfect software. The user must have established in advance, individual and collections of requirements.

Software acceptance is a contractual process during which users and developers identify criteria for the acceptance of software systems. Developers must agree to the users’ acceptance criteria. The users must define the acceptance criteria based on the system requirements for functionality, performance, interface quality, and overall software quality, as well as project characteristics such as the correction methodology (or variant). The buyer bases acceptance decisions on analyses and reviews of the products and on results from software product assurance activities.

The users must plan and manage the software acceptance program carefully to assure the adequate resources are available throughout the acceptance activities. Early in the process, they must include detailed plans for software acceptance testing. Such early planning enables all those involved in the software project to focus on the requirements and how well the evolving system is satisfying those requirements. Software acceptance requires adequate

resources and commitment from the beginning. Its completion will result in software that delivers to its users the services they require.

References

Guide – CSTE Common Body Of Knowledge, V6.1