Acceptance Testing

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1. What is Acceptance Testing

- Acceptance testing is the final level of software testing where the system is tested for compliance to its business requirements.
- It is performed by the client or the end users with the intent to see if the product is fit for delivery.
- It is carried out after system testing and before the final delivery to the client.
- It works under the Black Box Testing Method.

2. Contents of Acceptance Testing

Two parts: *Software Configuration Review* and *Software Validity Testing*.

1. Software configuration review

Common software configuration items include ：

(1) Main software program configuration, generally including source program, executable program, software installation and configuration script, key test script or test program

(2) Main technical documents

(3) Main development management documents

Contents of Acceptance Testing

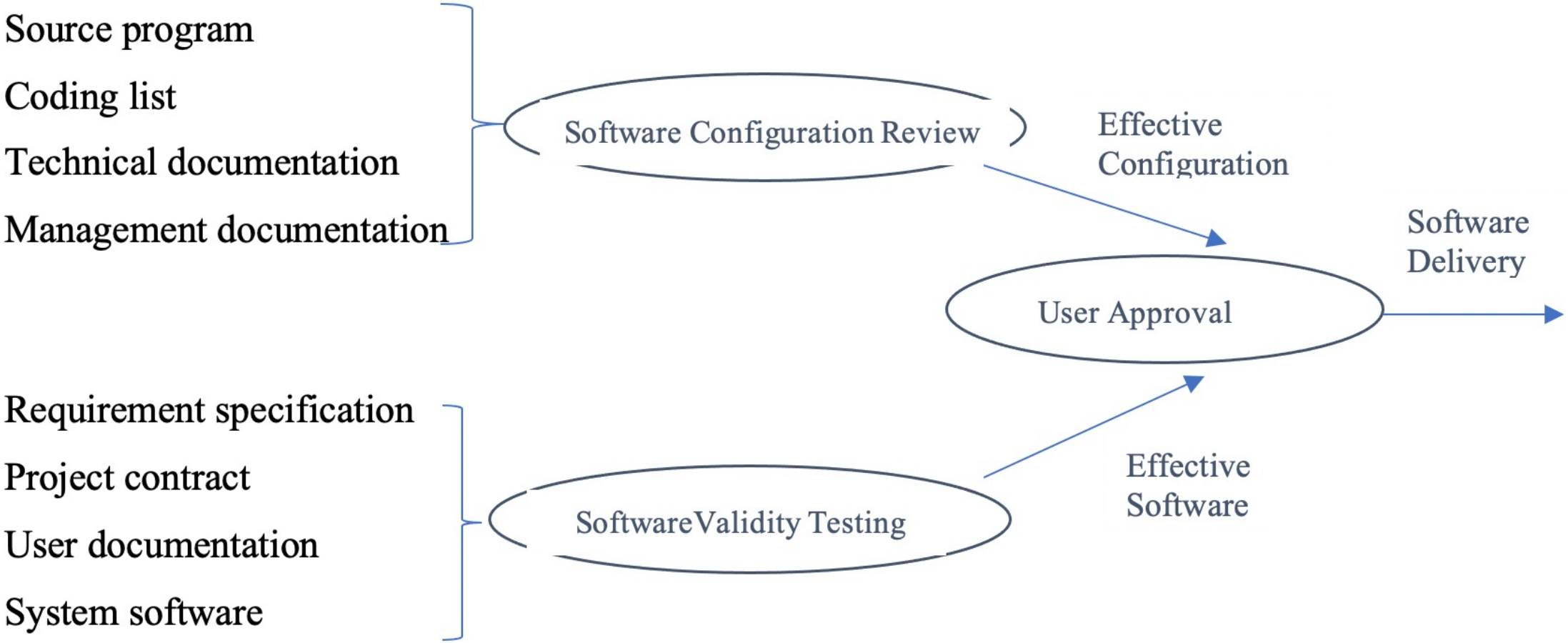
- Complete the following checks for the software configuration :
  - (1) Source code check
    - Normative check
    - Data type check
    - Check external interfaces
  - (2) Software consistency check
    - Compile check
    - Install and uninstall tests
    - Run the module consistency check
- Check the following items for documents :
    - Completeness
    - Normative
    - Targeted
    - Complete independence
    - Flexibility
    - Traceability

Contents of Acceptance Testing

2. Software validity test

- Software interface testing
- Usability testing
- Functional testing （including normal business process testing and error handling capability testing）
- Performance test （ including load, volume and stress testing）
- Software executing environment and system platform configuration testing
- Robustness testing(including recovery tests under various hardware and software failures)
- Reliability testing
- Compatibility testing
- Data backup testing
- Security testing

Contents of Acceptance Testing



Acceptance Testing Consideration

(1) Before the acceptance test, a formal acceptance test plan shall be prepared to clarify the criteria for passing the acceptance test, which shall be confirmed by users.

(2) The acceptance test must be carried out in the actual use environment of end users, or simulate the actual operation environment of users, so as to avoid some potential problems of software that cannot be found due to environmental differences.

(3) Acceptance tests should cover coarse-grained, business-level functions of the software. There is traceability between acceptance test cases and software project contracts and software requirements specifications.

It is not possible or necessary for acceptance test cases to re-run all test cases conducted during the development phase.

Acceptance Testing Consideration

(4) The acceptance test must be user-oriented and conducted in a way that users can intuitively perceive from the perspective of the actual business scenarios used by end users.

(5) The design of acceptance test cases must fully consider the user‘s way of thinking, usage habits, business language, etc., and organize test cases and test procedures according to the main business scenarios. It focuses on the function points and performance points that customers care most about.

3. Alpha Testing & Beta Testing

- **Alpha and Beta testing** are Acceptance Testing types(Customer Validation methodologies) that help in building confidence to launch the product, and thereby result in the success of the product in the market.

- Alpha and Beta Testing phases mainly focus on discovering the bugs from an already tested product and they give a clear picture of how the product is used by the real-time users.

Alpha Testing

- Alpha testing is the form of acceptance testing that takes place at the developer's site.
- It can be carried out by both in-house developers and QAs as well as potential end-users as well.
- Alpha testing is not open to the world.

Beta Testing

- Beta Testing (Field Testing) is the form of acceptance testing that takes place at the customer's or the end user's site.
- It is performed after alpha testing and in the real-world environment without the presence or control of developers.
- Beta tests or the beta version of the application are normally open to the whole world (or client).

For example, recently Microsoft corporation released Windows 10 beta and based on the feedback from thousands of users they managed to release a stable OS version. In the past, Apple also released OS X beta in public and fixed many minor issues and improved the OS based on user feedback.

Alpha Testing & Beta Testing

Alpha Testing	Beta Testing
Basic Understanding	
First phase of testing in Customer Validation	Second phase of testing in Customer Validation
Performed at developer's site - testing environment. Hence, the activities can be controlled	Performed in real environment, and hence activities cannot be controlled
Build released for Alpha Testing is called Alpha Release	Build released for Beta Testing is called Beta Release
Issues / Bugs are logged into the identified tool directly and are fixed by developer at high priority	Issues / Bugs are collected from real users in the form of suggestions / feedbacks and are considered as improvements for future releases.

Alpha Testing & Beta Testing

Participants	
Technical Experts, Specialized Testers with good domain knowledge (new or who were already part of System Testing phase), Subject Matter Expertise	End users to whom the product is designed
Test Duration	
Many test cycles conducted	Only 1 or 2 test cycles conducted
Rewards	
No specific rewards or prizes for participants	Participants are rewarded

4. Brief comparison of software testing phases

Items	Unit Testing	Integration Testing	System Testing	Acceptance Testing
Test object	Software units, such as functions, classes, components, modules	Interfaces between modules, such as parameter passing	The entire system, including hardware and software	The entire system, including hardware and software
Test basis	Detailed software design	Software architecture design	Software requirements specification	Requirements specification, contract, acceptance criteria
Tester	Developer or white box test engineer	Developers and testers work together	primarily the responsibility of professional testers	User-dominant, developer and tester work together
Test methods	White box test is mainly used	Black box testing is mainly used while white box testing is the secondary	Fully black-box testing	Fully black-box testing
Test data	Real data is generally not used	Real data is generally not used	Use or simulate real business data whenever possible	Use or simulate real business data whenever possible