



TESTING METHODOLOGIES AND DEFINITIONS

INSTRUCTOR-LED SYSTEMS & SOFTWARE WORKSHOPS

DETAILED OUTLINES AVAILABLE

Essential Skills for the Business Analyst
Ensuring Quality in an Agile Environment
Implementing and Using a Methodology
Developing Business Requirements
A Universal Approach to Systems Analysis
Mastering Use Case Modeling
A Universal Approach to Systems Design
A Universal Approach to Systems Analysis & Design
Root Cause Analysis
Unit Testing & System Verification
Testing, Quality Assurance, & Security Techniques
Analysis and Design for Managers & End Users
Data Modeling & Warehousing Concepts
Critical Thinker's ToolKit
Applied Critical Thinker's ToolKit: Business Process Analysis
Process Mapping Bootcamp
Object-Oriented Analysis & Design
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UML with Rational Rose
Software Project Estimating & Scheduling
Mastering the Requirements Elicitation



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ACCEPTANCE TESTING - Testing to verify a product meets the customer specified requirements. Typically conducted by the user/customer to determine whether to accept a software product.

AUTOMATED TESTING - Executing tests without manual intervention through the use of software tools.

BENCHMARK TESTING - Tests that use representative sets of programs and data designed to evaluate the performance of computer hardware and software within a given configuration.

BLACK BOX TESTING - Testing without the knowledge of the internal workings of the application being tested. Tests are usually functional.

BOUNDARY TESTING - Positive and negative input test focused on the boundary or limit conditions of the software being tested.

COMPATIBILITY TESTING - Tests to ensure compatibility of an application or Web site with different browsers, operating systems, and hardware platforms, can be performed manually or can be driven by an automated test suite.

CONFORMANCE TESTING - Testing to verifying implementation conforms to industry standards.

EXPLORATORY TESTING - The execution of unscripted tests in a predetermined section of the application to prove that errors do not exist. The exploratory tests are created on the fly by testers with some preconceived notion that an error may be lurking in a specific section of the application. Usually the testing is done with a particular testing strategy or approach in mind as a guideline.

FUNCTIONAL TESTING - Validate that an application conforms to its specifications and correctly performs all its required functions. Involves a series of tests to perform feature by feature validation of behavior, using normal and erroneous data.

INTEGRATION TESTING - Orderly testing progression of testing in which software components, hardware elements or both are combined and tested to evaluate how they interact - until the entire system has been integrated.

LOAD TESTING - Load testing is the simplest form of performance testing, usually conducted to understand the behavior under a specific expected load.

REGRESSION TESTING - Similar in scope to a functional test, a regression test allows a consistent, repeatable validation, and is conducted at all phases of the testing process to make sure reported defects have been corrected and that no new quality problems were introduced. Though regression testing can be performed manually an automated test suite is often used to reduce the time and resources needed to perform the required testing.

STRESS/ENDURANCE - Testing conducted to evaluate a system or component at or beyond the limits of its specified requirements to determine the load under which it fails and how. A graceful degradation under load leading to non-catastrophic failure is the desired result.

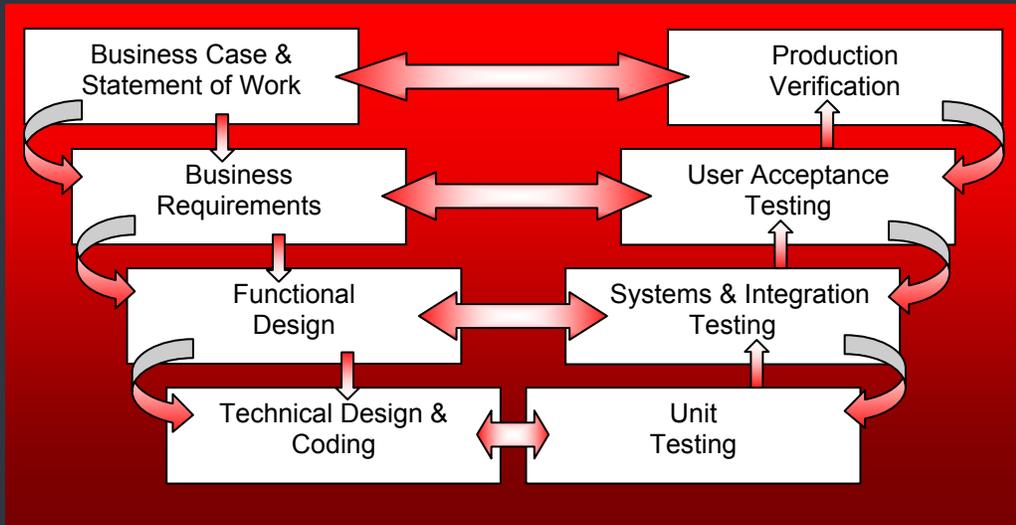
SYSTEM TESTING - Testing conducted on a complete, integrated system to evaluate the system's compliance with its specified requirements. System Testing falls within the scope of black box testing and should require no knowledge of the inner design of the code or logic.

UNIT TESTING - A series of reliability and functionality tests designed to find software engineering errors. Producing tests for the behavior of components of a product to ensure their correct behavior prior to system integration.

WHITE BOX TESTING - Testing based on an analysis of internal workings and structure of a piece of software. Includes techniques such as Branch Testing and Path Testing.

The V-Model Testing Methodology

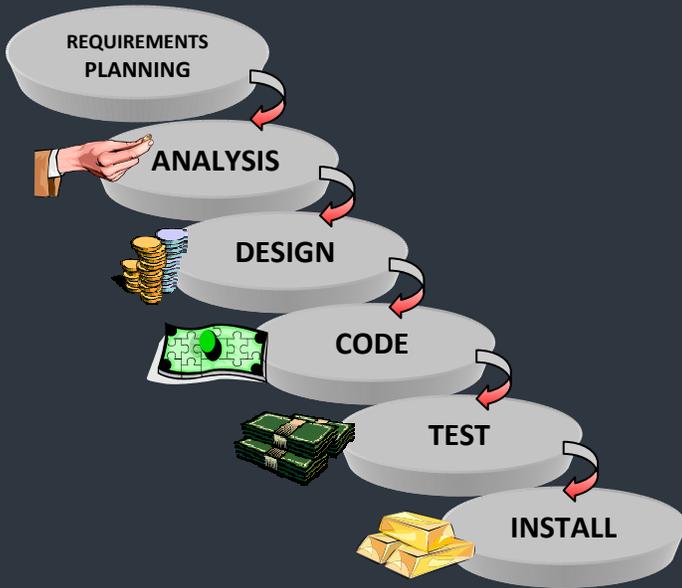
The V-Model testing methodology is a structured approach emphasizing quality from the initial stage of requirements through product verification. Each major development phase is linked to a corresponding testing phase. In practice, the V-Model framework is a powerful approach for managing and controlling risk within the testing component of a software development project.



The Waterfall Methodology

In the waterfall approach each step is expected to be complete, or nearly complete, before going onto the next phase. The strength of this methodology is found in facilitating scheduling and source planning. The weakness is in the difficulty of being responsive to change requests, and design problems may not turn up until the project is near completion.

In the waterfall approach the cost of defects increases tenfold as you move between phases, a minor defect at the analysis stage can be extremely costly if it is not found until the install phase.



The Boehm-Spiral Methodology

The evolution from the waterfall is the spiral which takes advantage of agile principles when development projects are both incremental and iterative. The spiral approach reflects the relationship of tasks with rapid prototyping, increased parallelism and concurrency in design and development.

The spiral methodology is used to provide shorter release cycles which in turn enables faster and more accurate customer feedback and greater customer satisfaction.

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