

User Acceptance Testing and Testing Objects

Consist of a set of tests:

- Drawn up by the customer's test designers/end-users
- Derived from the requirements specification
- Forming the final test activity before the system is approved for delivery

1 Why do UAT?

- To provide confidence that the system delivered to the customer is the one that they need. So the customer acts as the test oracle
- Testing is done from the customer's perspective and based upon their understanding of the requirements
- Ensures that the set of acceptance criteria have a pivotal role for driving the project
 - The criteria should be well understood by the customer, development team and project manager
 - Ideally they are made explicit in the contract

2 Operational benefits of UAT

- Reduces the risk of subsequent operational system failure
- Validates manuals and other documentation
- Checks handling of error conditions
- Tests the system on the operational platform so we can assess the impact our software has on existing systems and resources, and vice versa

3 UAT Focus

- Key goal is to gain acceptance of the system by its end-user stakeholders
- To achieve this, the system should:
 - Fulfil the intended purpose(s) and fit the business case
 - Provide evidence and results under the specified conditions of use
 - Be clearly and correctly documented
 - Be reliable and stable
 - Have no unintended side-effects

4 Types of UAT

UAT is typically approached in three ways:

- For a **benchmark test**, the customer prepares a set of test cases that represent typical operational scenarios - the tests may then be performed with actual users or a specified testing team, who also evaluate the outcomes
- A **pilot test** involves installing the system on an experimental basis and letting users employ it as if it were permanently installed, relying upon everyday use to test all the functions - so less formal and structured than a benchmark test
- In **parallel testing** the new system runs alongside an existing one, addressing compatibility and function testing

5 Prerequisites

5.1 Determine whether to start UAT

Earlier testing must be successfully completed:

- Unit tests
- Integration tests
- System tests

The developers must have confidence that the system is operational and ready for delivery

Managers must have confidence that there will be no embarrassment, so operate on the principle of least surprise

5.2 Assign roles

- The development team and customer need to agree about assigning roles and responsibilities
- In particular, should decide on who has the following roles
 - UAT team leader
 - Development team leader
 - Senior User/ User Representative
 - Testers

6 Key steps

Phase 1: Planning:

- Prepare a test plan
- Review the test plan with participants and stakeholders
- Arrange sign-off procedures

Phase 2: Preparing tests, Test Data and Training

- Prepare the tests (test cases)
- Prepare the scripts (test scenarios)
- Prepare the test data
- Conduct user testing
- Establish the test environment
- Confirm availability of resources

Phase 3: Executing and Controlling:

- Run the tests (scripts and test cases)
- Record the results
- Log problems and monitor the resolution
- Fix problems and re-test (not a good thing for UAT)

Phase 4: Closure:

- Arrange for formal acceptance of the system
- Perform system hand-over

7 Challenges of UAT

Coverage - Ensuring that all aspects of a system are covered by the tests. Difficult to have a really formal record of this

Regression testing - There end users are employed to exercise the system, it can be difficult to ensure that regression testing is performed rigorously

Training - The end users do need to have a good understanding of their role and the activities that they need to perform