1.4.3 Test Work Products

Test work products are created as part of the test process. Just as there is significant variation in the way that organizations implement the test process, there is also significant variation in the types of work products created during that process, in the ways those work products are organized and managed, and in the names used for those work products. This syllabus adheres to the test process outlined above, and the work products described in this syllabus and in the ISTQB Glossary. ISO standard (ISO/IEC/IEEE 29119-3) may also serve as a guideline for test work products.

Many of the test work products described in this section can be captured and managed using test management tools and defect management tools (see chapter 6).

Test planning work products

Test planning work products typically include one or more test plans. The test plan includes information about the test basis, to which the other test work products will be related via traceability information (see below and section 1.4.4), as well as exit criteria (or definition of done) which will be used during test monitoring and control. Test plans are described in section 5.2.

Test monitoring and control work products

Test monitoring and control work products typically include various types of test reports, including test progress reports (produced on an ongoing and/or a regular basis) and test summary reports (produced at various completion milestones). All test reports should provide audience-relevant details about the test progress as of the date of the report, including summarizing the test execution results once those become available.

Test monitoring and control work products should also address project management concerns, such as task completion, resource allocation and usage, and effort.

Test monitoring and control, and the work products created during these activities, are further explained in section 5.3 of this syllabus.

Test analysis work products

Test analysis work products include defined and prioritized test conditions, each of which is ideally bi-directionally traceable to the specific element(s) of the test basis it covers. For exploratory testing, test analysis may involve the creation of test charters. Test analysis may also result in the discovery and reporting of defects in the test basis.

Test design work products

Test design results in test cases and sets of test cases to exercise the test conditions defined in test analysis. It is often a good practice to design high-level test cases, without concrete values for input data and expected results. Such high-level test cases are reusable across multiple test cycles with different concrete data, while still adequately documenting the scope of the test case. Ideally, each test case is bi-directionally traceable to the test condition(s) it covers.

Test design also results in the design and/or identification of the necessary test data, the design of the test environment, and the identification of infrastructure and tools, though the extent to which these results are documented varies significantly.

Test conditions defined in test analysis may be further refined in test design.

Test implementation work products

Test implementation work products include:

- Test procedures and the sequencing of those test procedures
- Test suites
- A test execution schedule

Ideally, once test implementation is complete, achievement of coverage criteria established in the test plan can be demonstrated via bi-directional traceability between test procedures and specific elements of the test basis, through the test cases and test conditions.

In some cases, test implementation involves creating work products using or used by tools, such as service virtualization and automated test scripts.

Test implementation also may result in the creation and verification of test data and the test environment. The completeness of the documentation of the data and/or environment verification results may vary significantly.

The test data serve to assign concrete values to the inputs and expected results of test cases. Such concrete values, together with explicit directions about the use of the concrete values, turn high-level test cases into executable low-level test cases. The same high-level test case may use different test data when executed on different releases of the test object. The concrete expected results which are associated with concrete test data are identified by using a test oracle.

In exploratory testing, some test design and implementation work products may be created during test execution, though the extent to which exploratory tests (and their traceability to specific elements of the test basis) are documented may vary significantly.

Test conditions defined in test analysis may be further refined in test implementation.

Test execution work products

Test execution work products include:

- Documentation of the status of individual test cases or test procedures (e.g., ready to run, pass, fail, blocked, deliberately skipped, etc.)
- Defect reports (see section 5.6)
- Documentation about which test item(s), test object(s), test tools, and testware were involved in the testing

Ideally, once test execution is complete, the status of each element of the test basis can be determined and reported via bi-directional traceability with the associated the test procedure(s). For example, we can say which requirements have passed all planned tests, which requirements have failed tests and/or have defects associated with them, and which requirements have planned tests still waiting to be run. This enables verification that the coverage criteria have been met, and enables the reporting of test results in terms that are understandable to stakeholders.

Test completion work products

Test completion work products include test summary reports, action items for improvement of subsequent projects or iterations (e.g., following a project Agile retrospective), change requests or product backlog items, and finalized testware.