

Test Documentation

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Agenda

- **Review**
- **IEEE test documentation set**
- **Test Verification Matrix**
- **Test Execution Checklist**
- **Test Activity Measurement Report**
- **Test documentation principles**

- **Testing is a process by which we understand the status of the benefits and the risk associated with release of a software system**
- **Automated testing tools may be used to assist test management and execution**

IEEE 829/ AS 4006

Planning & preparation

- **Test Plans**
- **Test Design Specifications**
- **Test Case Specifications**
- **Test Procedure Specifications**

Execution & reporting

- **Test Item Transmittal Report**
- **Test Log**
- **Test Incident Report**
- **Test Summary Report**

Other useful documents

- **Test Verification Matrix**
- **Test Execution Checklist**
- **Test Activity Measurement Report....**

- **Defines the overall test scope (*in AND out*)**
- **Provides an overall test philosophy**
- **Specifies resource and schedule requirements**
- **Identifies testing roles and responsibilities**
- **Specifies the test management controls (entry/exit)**
- **Development should commence during systems concept / requirements definition activities**
- **Is the roadmap for testing**
- **Is the authority to conduct testing....**

- | | |
|---|--------------------------------------|
| • Introduction | <i>Environmental needs</i> |
| • Test Items | <i>Responsibilities</i> |
| • Features to be tested / not to be tested | <i>Staffing & training needs</i> |
| • Approach | <i>Schedule</i> |
| • Item pass / fail criteria | <i>Risks & contingencies</i> |
| • Suspension / resumption criteria | <i>Approvals</i> |
| • Test deliverables | |
| • Testing tasks | |

Test Design Specification

- **Specifies the items/features to be tested using this test design**
- **Specifies the details of the test approach for one or more distinguishing characteristics of an item (e.g. functionality, performance, useability)**
- **Identifies the associated tests, test cases, and pass/fail criteria**
- **It also describes shared resources, procedures and test cases....**

Test Case Specification

- **Specifies the items/features to be tested using this test case**
- **Specifies inputs, outputs, expected / predicted results**
- **Sets execution conditions for a test item**
- **Identifies required resources, procedures and interdependencies with other test cases....**

Test Procedure Specification

- **Specifies a sequence of actions for the execution of a test and references prerequisite resources, activities and associated test cases**
- **May also describe specific test suspension and resumption criteria and actions....**

Test Item Transmittal Report

- **Identifies the items being transmitted for testing**
- **Also includes:**
 - **responsible person,**
 - **location, and**
 - **status information....**

- **Provides a chronological record of details related to execution of tests**
- **Lists activities, event information and test results**
- **Cross references to Test Incident Reports (where applicable)....**

- **Records an instance where actual test results differ from expected results**
- **Identifies the impact of the incident**
- **Records the resolution of the incident**

Test Summary Report

Describes:

- **the scope of testing conducted**
- **constraints on testing**
- **problems encountered**
- **testing program results**

It also presents an evaluation of the comprehensiveness of the testing program and the test results

Test Verification Matrix

Maps the test

- **designs**
- **cases**
- **procedures**

to the project requirements to ensure that all testable requirements are verified....

Test Execution Checklist

- **Specifies inputs, actions to be performed, expected / predicted results (*similar to the Test case*)**
- **Specifies a sequence of actions for the execution of a test in a checklist / execution sequence format (similar to the Test procedure)**
- **Records actual results (similar to the Test log)**
- **Cross references to test incident reports as appropriate**
- **Provides evidence of test execution & results....**

Activity Measurement Report

Quantifies the testing activities and their results :

- **e.g. hours per activity**
- **start and end dates**
- **number of defects detected**
- **defect trends**
- **analysis of testing activities against plans....**

Test Documentation Principles

- **Support testing scope definition & management**
- **Tailor the document set to match the project size and complexity and information needs**
- **Provide a vehicle for sharing system quality information**
- **Support project quality & risk management**
- **Be sufficient but not excessive or bureaucratic**
- **Make use of automated tools where economically feasible**
- **Test document assets should be designed to be reusable....**

Review

- **Test plans are the authority to perform testing on a project**
- **Test documentation should be sufficient but not excessive**
- **Systematic test documentation supports:**
 - **sharing of project quality information**
 - **risk management**
 - **regression testing**
 - **test planning on future projects**