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1. Test Plan

Reason for the document:	Help you consider and plan for test activities Evidence of decisions Rule book for actions Checklist of how to control test issues
Audience:	You Your manager Your team Your customer
When to write	At the start - during project planning
How to use	Planning document - part of/expansion of the project plan and could be combined with it Early on - Document test approach and explain/publicise it to management, customer and team During - use to help you keep on track and reassess issues/risks/direction Be prepared to update/change - but document changes and reasons for change

Major parts:

- Test plan identifier
Specifies the unique identifier of this test plan.
- Introduction
Summarizes the items and features to be tested. The need for each item and its history may be included. References to the other project documents, when they exist, are required in the highest level test plan.
- Test Items
Identifies the test items including their version/revision level. Supply references to test item documentation, if it exist. Reference any incident reports relating to the test items. Items that are to be specifically excluded from testing may be identified.
- Features to be tested
Identify all features (e.g. non-functional characteristics) and combinations of features to be tested.
- Features not to be tested
Identify all features and significant combinations of features that will not be tested and the reasons.
- Approach
Describe the overall approach to testing. For each major group of items, features or feature combinations, specify the approach that will ensure that these items and/or feature groups are adequately tested. Specify the major activities, techniques, and tools that are used to test the designated groups of features. The approach should be described in sufficient detail to permit identification of the

major testing tasks and estimation of the time required to do each one. Identify significant constraints on testing such as test item availability, testing resource availability, and deadlines.

- **Item pass/fail criteria**
Specify the criteria to be used to determine whether each test item has passed or failed testing.
- **Suspension criteria and resumption requirements**
Specify the criteria used to suspend all or a portion of the testing activity on the test items associated with this plan. Specify the testing activities that must be repeated, when testing is resumed.
- **Test deliverables**
Identify the deliverable test documents.
- **Testing tasks**
Identify the set of tasks necessary to prepare for and perform testing. Identify all intertask dependencies and any special skills required.
- **Environmental needs**
Specify both the necessary and desired properties of the test environment. Also specify the level of security that must be provided for the test facilities, system software, and proprietary components such as software, data, and hardware. Identify special test tools needed. Identify any other testing needs (e.g., publications or office space).
- **Responsibility**
Identify the groups responsible for managing, designing, preparing, executing, witnessing, checking, and resolving. In addition, identify the groups responsible for providing the test items and the environmental needs.
- **Staffing and training needs**
Specify test staffing needs by skill level. Identify training options for providing necessary skills.
- **Schedule**
Include test milestones identified in the software project schedule. Define any additional test milestones needed. Estimate the time required to do each testing task. Specify the schedule for each testing task and test milestone. For each testing resource (i.e., facilities, tools, and staff), specify its periods of use.
- **Risks and contingencies**
Identify the high-risk assumptions of the test plan. Specify contingency plans for each (e.g., delayed delivery of test items might require increased night shift scheduling to meet the delivery date).
- **Approvals**
Specify the names and titles of all persons who must approve this plan. Provide space for the signatures and dates.

2. Test Design Specification

Reason for the document:	Prepare and plan the tests in detail, show the techniques to be used, prepare the ground for more specific test cases hereafter
Audience:	Test team Development team Possible the customer (especially during acceptance testing) Anyone who could affect or needs to know about the specific tests (e.g. operations group, other projects)
When to write	Start early on – as soon as the test basis is stable or released
How to use	In a small or agile projects, you may want to combine this with the test case specification and the test procedure specification to make one test specification document

Major parts:

- Identifier (and reference to test plan)
Specifies the unique identifier of this test log.
- Items/Features to be tested
Identify the test item and describe the features (e.g. quality attributes) that are the object of this test design specification. Also a reference to the associated requirements should be included.
- Approach refinements
*Specify refinements to the approach described in the test plan, e.g. include test techniques to be used, reviews to be carried out, supporting tools to be used, specific issues that may be relevant during test case selection, etc.
Also summarize common attributes to the test cases. This may include input constraints such as shared environmental needs.*
- Test identification (list test cases)
The list of test conditions: identify and briefly describe each test objective / test case associated with this design.
- Feature pass/fail criteria
Specify the criteria to be used to determine whether the item/feature has passed or failed.

3. Test Cases Specification

Reason for the document:	Define each test case in detail with its inputs, processing and expected results
Audience:	Testers Test Team Business (for acceptance testing)
When to write	Early sketch of test case helps to focus on the test problem. Test cases are fully developed when test design and test basis are finalized. Also feed test cases back to the design and code team - see V model
How to use	Check on test coverage, requirements and design conformance during review.

Major parts:

- Identifier (and reference to test plan and test design)
Specifies the unique identifier of this test procedure and a reference to the associated test design specification.
- Test items
Specifies the test item and features covered by this test case. It may include references to the specification documents.
- Input specifications
Specify each input names of files, values, etc.) required to execute the test case. Some of the inputs will be specified by value (with tolerances where appropriate), while others, such as constant tables or transaction tables, will be specified by name. Identify all appropriate (test) databases. Specify all required relationships between inputs (e.g., timing).
- Output specifications
Specify all of the outputs (names of files, values, messages, etc) and features (e.g., response time) required of the test items. Provide the exact value (with tolerances where appropriate) for each required output or feature.
- Environmental needs (hardware, software)
These may include special hardware configurations, system and application software (e.g. also consider the test item may interact with application software) required to execute this test, database status, special skills requirements, etc.
- Special procedural requirements
Describe any special constraints on the test procedures that execute this test case. These constraints may involve special set up, operator intervention, output determination procedures, and special wrap up.
- Inter-case dependencies
List the identifiers of test cases that must be executed prior to this test case. Summarize the nature of the dependencies.

4. Test Procedure Specification

Reason for the document:	Specify steps for executing a set of test cases, to test an item and/or feature
Audience:	Testers Test team Business (for acceptance testing) Test environment manager
When to write	Sketch early, fill in details during the early stages, complete during code/test - be prepared to refine and change
How to use	Prompt for test executors Information for other affected groups May want to combine with the other test specification documents

Major parts:

- Identifier (and reference to test plan and test design)
Specifies the unique identifier of this test procedure and a reference to the associated test design specification.
- Purpose
Specifies the purpose of this test procedure. Also include a reference to the test cases to be executed during this procedure and to the relevant sections of the test item documentation.
- Special requirements for this test procedure
These may include special hardware, database status, prerequisite procedures, special skills requirements, etc.
- Procedure steps - including:
 - Logging method – *methods or formats for logging the results of test execution.*
 - Set up - *the sequence of actions necessary to prepare for the execution of this procedure.*
 - Start - *the actions necessary to begin the execution of this procedure*
 - Proceed - *any action necessary during execution.*
 - Measure - *how test measurement will be taken (e.g. how response time is to be measured).*
 - Shut down - *actions necessary to suspend testing, when unscheduled events occur.*
 - Restart - *identify any procedural restart points and describe the actions necessary to restart the procedure at each of these points.*
 - Stop - *actions necessary to bring execution to an orderly halt*

- Procedure steps (continued):
 - Wrap up – *actions necessary to restore the test environment*
 - Contingencies – *actions necessary to deal with anomalous events that may occur during execution*

5. Test Item Transmittal Report

Reason for the document:	Information to the test team from the development team that a test item is in the test area and ready for test. Also called “test item release report”. Can also be used by the test team to support the transfer to a next test level.
Audience:	Development team Test team Configuration management team
When to write	As items are ready for (re-)test
How to use	Audit trail Part of entry criteria

Major parts:

- Identifier
Specifies the unique identifier of this test log.
- List of transmitted items (and precise identification)
Identifies the test item being transmitted, including their version number. Supply references to the item documentation. Note: the documentation may include a test plan and test specification reference in case the test item transmittal report is issued by the test team.
- Location
The physical location of the transmitted items.
- Status
Describe the status of the test items being transmitted. List the incident reports that are expected to be solved. Indicate if there are pending modifications.
- Approvals
Specify the names of the persons who most approve this transmittal. .

6. Test Log

Reason for the document:	Record of what actually happened during a test execution
Audience:	Test team Development team Problem analysis team Audit?
When to write	As tests are executed or immediately after the execution of a test
How to use	Record/evidence Audit trail Could do on paper (e.g. within the test procedure) or on-line (e.g. in a test management tool)

Major parts:

- Identifier (and reference to test plan and test design)
Specifies the unique identifier of this test log.
- Description / common information
Information that applies to all entries in the log, e.g. the item being tested (incl. version number), applicable release note, attributes of the environments in which the testing is conducted.
- Activities log
 - Execution description
Record the identifier of the test procedure executed, the testers and other persons present. Possibly also record execution time and date.
 - Results
Record the observed results, both successful and unsuccessful
 - Environmental information
Any environmental conditions specific to this entry
 - Anomalous events
Record what happened before and after an unexpected event occurred and/or Reference to the related test incident by identifier

7. Test Incident Report (TIR)

Reason for the document:	Capture test incidents as they arise, maintain history of each incident for managing change control
Audience:	Test team Development team Change Control Board (CCB) Sometimes the customer
When to write	As test incidents arise
How to use	To pass information from testing to development Basis for release notes Can be done on paper or on-line (e.g. in a spreadsheet or an incident management tool)

Major parts (when raising the TIR):

- Identifier
Specifies the unique identifier of this test incident.
- Summary of incident
A short summary of the incident, including a reference to the test item indicating their version. References to the appropriate test procedure specification, test case and test log should be supplied.
- Incident description
Provides a full description of the incident and should include the following items:
 - inputs
 - expected results
 - actual results
 - anomalies (strange behaviour)
 - date and time
 - procedure step
 - environment
 - attempts to repeat (repeatability)
 - testers' name
 - observers' name*Related activities and observation to isolate and correct the cause of the incident should also be included.*
- Impact
The (business) priority of the incident. This part should also include the impact of this incident on the test process, e.g. which tests need to be re-run, and test deliverables.

8. Test Summary Report

Reason for the document:	Report on the test status and results at the end of a test phase (could also be used during test phases)
Audience:	Your manager Your team Your customer Audit
When to write	When testing is suspended or completed for a phase or for the project or at set times during the test phase
How to use	Log test results and report against predefined exit criteria

Major parts:

- Identifier (and reference to test plan and test design)
Specifies the unique identifier of this test summary report.
- Summary
A (management) summary of the evaluation. Identify the test items tested, including their version/revision level. Also indicate the environment in which the testing activities took place,
- Variances (against plan)
Report any variances of the tests executed from test plan, test designs or procedure. Specify the reason for each variance.
- Comprehensive assessment (test process)
Evaluate the comprehensiveness of the testing process against the criteria, e.g. level of coverage to be achieved, specified in the test plan.
- Summary of results (quality)
Detailed summary of the results of testing. Identify all resolved incidents and summarize their resolution. Identify all unresolved incidents.
- Evaluation
Provide an overall evaluation of each test item including its limitations. An estimate of failure risk may be included.
- Summary of activities
Summarize the major testing activities and events. Summarize resource data, e.g. total staffing, total machine time and total elapsed time used for each of the major testing activities.
- Approvals
Specify the names of the persons who most approve this transmittal. .