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Course Outline

Chapter 1: Fundamentals of Testing
Chapter 2: Testing throughout the Software Development Life Cycle
Chapter 3: Static Testing
Chapter 4: Test Techniques
Chapter 5: Test Management
Chapter 6: Tool Support for Testing

Course Outline

Chapter 5: Test Management

No. of Session: 04
Session 10: 5.1 - 5.1.2
Session 11: 5.2 - 5.2.3
Session 12: 5.2.4 - 5.3.2
Session 13: 5.4 - 5.6

Chapter 5: Test Management

Session 10

Test Organization

- Independent Testing
- Tasks of a Test Manager and Tester

Chapter 5: Test Management

Session 11

Test Planning and Estimation
Purpose and Content of a Test Plan
Test Strategy and Test Approach
Entry Criteria and Exit Criteria (Definition of Ready and Definition of Done)

Chapter 5: Test Management

Session 12

Test Execution Schedule
Factors Influencing the Test Effort
Test Estimation Techniques
Test Monitoring and Control
Metrics Used in Testing
Purposes, Contents, and Audiences for Test Reports

Chapter 5: Test Management

Session 13

Configuration Management
Risks and Testing
Definition of Risk
Product and Project Risks
Risk-based Testing and Product Quality
Defect Management

Chapter 5: Test Management

Test Organization

A test organization defines who is responsible for what activity in the test process.

The organization defines

- ➔ the test functions
- ➔ test facilities
- ➔ test activities
- ➔ the competencies and knowledge of the people involved

Chapter 5: Test Management

Test Organization

Independent testing /1

- ➔ corresponds to an independent team
- ➔ Independent team involves in testing activities other than developer to avoid author bias
- ➔ more effective at finding defects and failures

Chapter 5: Test Management

Test Organization

Independent testing /2

- Levels of independence
- Potential benefits of independence
- Potential drawbacks of test independence
- Independence varies

Chapter 5: Test Management

Test Organization

Independent testing

Levels of independence /1

- Testing is done by developer himself/herself.
- Testing is done by another programmer of the same development team.
- Testing is done by testers integrated with the developer.

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Test Organization

Independent testing

Levels of independence /2

- Independent testing team within the organization.
- Independent Testers of different organization.
- Outsourced test team members of other organization.

Source:
https://www.geeksforgeeks.org/independent-testing-in-software-engineering/
https://www.tutorialspoint.com/software_testing_dictionary/independent_testing.htm

Chapter 5: Test Management

Test Organization

Independent testing

Potential benefits of independence /1

- The tester sees each defect in a neutral perspective
- The tester is totally unbiased
- The tester sees what has been built rather than what the developer thought
- The tester makes no assumptions regarding quality

Chapter 5: Test Management

Test Organization

Independent testing

Potential benefits of independence /2

- Provides improved software quality.
- Finds out more defects as compared to other testers working inside the programming team.
- Identify hidden defects due to unique side assumptions and ideas of independent testers.

Chapter 5: Test Management

Test Organization

Independent testing

Potential benefits of independence /3

- Cost-effective as it has a separate budget, which helps in tracking money spent on training, testing tools, and equipment.
- Supplies more experienced and skilled power.

Chapter 5: Test Management

Test Organization

Independent testing

Potential benefits of independence /4

- One can easily switch between manual and automation testing using independent testing due to being more flexible.
- Reduces time to market by providing access to expert skills in test automation skills ensuring faster testing cycles.

Source:
https://www.tutorialspoint.com/software_testing_dictionary/independent_testing.htm
https://www.geeksforgeeks.org/independent-testing-in-software-engineering/

Chapter 5: Test Management

Test Organization

Independent testing

Potential drawbacks of test independence /1

- The isolating feature can sometimes lead to outdated documentation references.
- The independent test execution is normally the last stage and affected by any delays earlier in the process.
- Developers might be irresponsible for quality as they might assume that independent testing team is there to find the issues within the system.

Chapter 5: Test Management

Test Organization

Independent testing

Potential drawbacks of test independence /2

- Independent testing can sometimes act as a hindrance to communication.
- Faces lack identification in project goals and a few more uncertain things.

Source:
https://www.geeksforgeeks.org/independent-testing-in-software-engineering/
https://www.tutorialspoint.com/software_testing_dictionary/independent_testing.htm

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Test Organization

Independent testing

Independence varies /1

- The amount of independence in testing varies between levels as well (In most projects, there will be multiple test levels).
- Often more independence is most effective at the higher levels, for example system and user acceptance testing.

Chapter 5: Test Management

Test Organization

Independent testing

Independence varies/2

- The type of development life cycle also influences the level of independence of testing. In Agile development, a tester may provide some independence as part of the development team and may (also) be part of an independent team performing independent testing at higher levels.
- Product owners may perform acceptance testing to validate user stories at the end of each iteration.

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Tasks of a Test Manager and Tester

Test manager tasks /1

- Collaboration with the other stakeholders, devise the test objectives, organizational test policies and test strategies.
- Plan the test activities, based on the test objectives and risks, and the context of the organization and the project.
  - selecting the test approaches
  - estimating time, effort and cost for testing
  - acquiring resources
  - defining test levels, types and test cycles
  - planning defect management

Chapter 5: Test Management

Tasks of a Test Manager and Tester

Test manager tasks /2

- Write and update over time any test plan(s).
- Coordinate the test plan(s) with other project stakeholders, project managers, product owners and anyone else who may affect or be affected by the project or the testing.
- Share the testing perspective with other project activities, such as integration planning, especially where third-party suppliers are involved.

Chapter 5: Test Management

Tasks of a Test Manager and Tester

Test manager tasks /3

- Lead, guide and monitor the analysis, design, implementation and execution of the tests, monitor test progress and results, and check the status of exit criteria (or definition of done).
- Prepare and deliver test progress reports and test summary reports, based on information gathered from the testers.
- Adapt the test planning based on test results and progress (whether documented in test progress or summary reports or not) and take any actions necessary for test control.

Chapter 5: Test Management

Tasks of a Test Manager and Tester

Test manager tasks /4

- Support setting up the defect management system and adequate configuration management of the testware, and traceability of the tests to the test basis.
- Produce suitable metrics for measuring test progress and evaluating the quality of the testing and the product (test object).
- Decide about the implementation of test environment(s) and ensure that they are put into place before test execution and managed during test execution.

Chapter 5: Test Management

Tasks of a Test Manager and Tester

Test manager tasks /5

- Promote and advocate the testers, the test team and the test profession within the organization.
- Develop the skills and careers of testers, through training, performance evaluations, coaching and other activities, such as lunch-time discussions or presentations.

Chapter 5: Test Management

Tasks of a Test Manager and Tester

Test manager tasks /6

- Recognize when test automation is appropriate
- For automated testing tools
  - setting a budget for tool selection
  - possible purchase, lease, support and training of the team
  - allocating time and effort for pilot projects and providing continuing support in the use of the tool(s)

Chapter 5: Test Management

Tasks of a Test Manager and Tester

Tester tasks /1

- Reviewing and contributing to test plans from the tester perspective.
- Analyzing, reviewing and assessing requirements, user stories and acceptance criteria, specifications and models (that is, the test basis) for testability and to detect defects early.

Chapter 5: Test Management

Tasks of a Test Manager and Tester

Tester tasks /2

- Identifying and documenting test conditions and test cases, capturing traceability between test cases, test conditions and the test basis to assist in checking the thoroughness of testing (coverage), the impact of failed tests and the impact on the tests of changes in the test basis.
- Designing, setting up and verifying test environments(s), coordinating with system administration and network management.

Chapter 5: Test Management

Tasks of a Test Manager and Tester

Tester tasks /3

- Designing and implementing test cases and test procedures, including automated tests where appropriate.
- Acquiring and preparing test data to be used in the tests.
- Creating a detailed test execution schedule (for manual tests).
- Executing the tests, evaluating the results and documenting deviations from expected results as defect reports.

Chapter 5: Test Management

Tasks of a Test Manager and Tester

Tester tasks /4

- Using appropriate tools to help the test process.
- Automating tests as needed (for technical test specialists), as supported by a test automation engineer or expert or a developer.
- Evaluating non-functional characteristics such as performance efficiency, reliability, usability, security, compatibility and portability.

Chapter 5: Test Management

Tasks of a Test Manager and Tester

Tester tasks /5

- Reviewing tests developed by others, including other testers, business analysts, developers or product owners.
- Part of a tester's role is to help educate others about doing better testing.

Chapter 5: Test Management

Defining the skills test staff need /1

3 main areas:

1) Application or business domain
2) Technology
3) Testing

Chapter 5: Test Management

Defining the skills test staff need /2

3 main areas:

Application or business domain: A tester must understand the followings in order to spot improper behaviour while testing, and recognize the 'must-work' functions and features.

- ➔ the intended behaviour
- ➔ the problem the system will solve
- ➔ the process it will automate and so forth

Chapter 5: Test Management

Defining the skills test staff need /3

3 main areas:

Technology: A tester must be aware of the issues, limitations and capabilities of the chosen implementation technology, in order to effectively and efficiently locate problems and recognize the 'likely-to-fail' functions and features.

Testing: A tester must know the testing topics and often more advanced testing topics, in order to effectively and efficiently carry out the test tasks assigned.


Thank You!

Chapter 5: Test Management

Session 11

Test Planning and Estimation

- The purpose and content of a test plan
- Test strategy and test approach
- Entry criteria and Exit criteria (definition of Ready and definition of Done)

Chapter 5: Test Management

Test Planning and Estimation

The purpose and content of test plan

IEEE 829 STANDARD TEST PLAN TEMPLATE

Test plan identifier

Introduction

Test items

Features to be tested

Features not to be tested

Approach

Item pass/fail criteria

Suspension and resumption criteria

Test deliverables

Test tasks

Environmental needs

Responsibilities

Staffing and training needs

Schedule

Risks and contingencies

Approvals

Chapter 5: Test Management

Test Planning and Estimation

The purpose and content of test plan

Sample template of Test plan

Chapter 5: Test Management

Test Planning and Estimation

The purpose and content of test plan

What to do with your brain while planning tests

- ➔ What is in scope and what is out of scope for this testing effort?
- ➔ What are the test objectives?
- ➔ What are the important project and product risks?
- ➔ What is the overall approach of testing in this project?
- ➔ How will test activities be integrated and coordinated into the software life cycle activities?

Chapter 5: Test Management

Test Planning and Estimation

The purpose and content of test plan

What to do with your brain while planning tests

- ➔ How do we decide what to test, what people and other resources are needed to perform test activities, and how test activities will be carried out?
- ➔ What constraints affect testing (for example budget limitations, hard deadlines, etc.)?
- ➔ What is most critical for this product and project?
- ➔ Which aspects of the product are more (or less) testable?

Chapter 5: Test Management

Test Planning and Estimation

The purpose and content of test plan

What to do with your brain while planning tests

➔ What should be the overall test execution schedule and how should we decide the order in which to do

- ❑ test analysis
- ❑ test design
- ❑ implementation
- ❑ execution and evaluation of specific tests
  - ❖ either on specific dates
  - ❖ or in the context of an iteration?

Chapter 5: Test Management

Test Planning and Estimation

The purpose and content of test plan

What to do with your brain while planning tests

- ➔ What metrics will be used for test monitoring and control and how will they be gathered and analyzed?
- ➔ What is the budget for all test activities?
- ➔ What should be the level of detail and structure for test documentation? (Templates or example documents or work products are helpful for this.)

Chapter 5: Test Management

Test Planning and Estimation

Test strategy and test approach

The major types of test strategies that are commonly found:

- Analytical
- Model-based
- Methodical
- Process or standard compliant
- Dynamic

Chapter 5: Test Management

Test Planning and Estimation

Test strategy and test approach

The major types of test strategies that are commonly found:

- Consultative or directed
- Regression-averse

Chapter 5: Test Management

Test Planning and Estimation

Test strategy and test approach

Which strategies to pick or blend?

A few of the most important factors to consider:

- Risks
- Skills
- Objectives
- Regulations

Chapter 5: Test Management

Test Planning and Estimation

Test strategy and test approach

Which strategies to pick or blend?

A few of the most important factors to consider:

- Product
- Business

Chapter 5: Test Management

Test Planning and Estimation

Entry Criteria and Exit Criteria (Definition of Ready and definition of Done)

Entry criteria /1 Typical entry criteria include the following:

- Availability of testable requirements, user stories and/or models, for example when following a model-based testing strategy, that is, the test basis is available.
- Availability of test items that have met the exit criteria for any previous test levels.
- Availability of the test environment.

Chapter 5: Test Management

Test Planning and Estimation

Entry Criteria and Exit Criteria (Definition of Ready and definition of Done)

Entry criteria /2 Typical entry criteria include the following:

- Availability of necessary test tools and any other materials needed.
- Availability of test data and other necessary resources.
- Availability of staff for testing tasks.
- Availability of the component or system to be tested, that is, availability of the test object.

Chapter 5: Test Management

Test Planning and Estimation

Entry Criteria and Exit Criteria (Definition of Ready and definition of Done)

Exit criteria /1 Typical exit criteria include the following:

- Tests: the number planned, prepared, run, passed, failed, blocked, skipped etc. are acceptable.
- Coverage: the extent to which the test basis (for example requirements, user stories, acceptance criteria), risk, functionality, supported configurations, and the software code have been tested (that is, achieved a defined level of coverage)

Chapter 5: Test Management

Test Planning and Estimation

Entry Criteria and Exit Criteria (Definition of Ready and definition of Done)

Exit criteria /2 Typical exit criteria include the following:

- Defects: the number known to be present, the arrival rate, the number estimated to remain, the number resolved and the number of unresolved defects are within an agreed limit.
- Quality: the status of the important quality characteristics for the system, for example reliability, performance efficiency, usability, security and other relevant quality characteristics are adequate.

Chapter 5: Test Management

Test Planning and Estimation

Entry Criteria and Exit Criteria (Definition of Ready and definition of Done)

Exit criteria /3 Typical exit criteria include the following:

- Money: the cost of finding the next defect in the current level of testing compared to the cost of finding it in the next level of testing (or in production).
- Schedule: the project schedule implications of starting or ending testing.
- Risk: the undesirable outcomes that could result from shipping too early (such as latent defects or untested areas), or too late (such as loss of market share).


Thank
you

Chapter 5: Test Management

Session 12

Test Planning and Estimation
- Test Execution Schedule
- Factors Influencing the Test Effort
- Test Estimation Techniques

Test Monitoring and Control
- Metrics Used in Testing
- Purposes, Contents, and Audiences for Test Reports

Chapter 5: Test Management

Test Planning and Estimation

Test Execution Schedule

The Test execution schedule defines the order in which test cases and test procedures are run.

- It is a scheme for the execution of test procedures and test cases.
- Once the various test cases and test procedures are produced and assembled into test suites, the test suites can be arranged in a test execution schedule.

Chapter 5: Test Management

Test Planning and Estimation

Test Execution Schedule

The Test execution schedule defines the order in which test cases and test procedures are run.

- To ensure effective and efficient test execution: the strategic arrangement of test suites within the test execution schedule.

During the test execution phase, the test suites are executed according to the predefined test execution schedule.

Chapter 5: Test Management

Test Planning and Estimation

Test Execution Schedule

Test Execution Scheduling Factors:

- Prioritization
- Dependencies
- Confirmation and Regression Tests
- Most Efficient Test Execution Sequence

Chapter 5: Test Management

Test Planning and Estimation

Factors Influencing the Test Effort

Some factors which influence test effort are:

- Maturity of the software development process/Software Life Cycle
- Quality and testability of the test object
- Test infrastructure
- Test strategy

Chapter 5: Test Management

Test Planning and Estimation

Factors Influencing the Test Effort

Some factors which influence test effort are:

- Documentation
- Software application Size
- Time
- Skilled team / Skills of staff members
- Team and work relationship
- Test results

Chapter 5: Test Management

Test Planning and Estimation

Test Estimation Techniques

The methods and approaches used to determine or estimate the followings required for testing activities in software development projects:

- ➔ the effort
- ➔ time
- ➔ resources

Template of Test Estimation Techniques

Source: https://testsigma.com/blog/test-estimation-techniques/


Thank you
So much!

Chapter 5: Test Management

Session 13

Configuration Management
Risks and Testing
- Definition of Risk
- Product and Project Risks
- Risk-based Testing and Product Quality

Defect Management

Chapter 5: Test Management

Configuration Management

Configuration management for testing may involve ensuring the following /1

- All test items of the test object are uniquely identified, version controlled, tracked for changes and related to each other, that is, what is being tested.
- All items of testware are uniquely identified, version controlled, tracked for changes, related to each other and related to a version of the test item(s) so that traceability can be maintained throughout the test process.

Chapter 5: Test Management

Configuration Management

Configuration management for testing may involve ensuring the following /2

- All identified work products and software items are referenced unambiguously in test documentation.

Chapter 5: Test Management

Risks and Testing: Product and Project Risks

Product risk /1

Some example product risks:

- Software might not perform its intended functions according to the specification.
- Software might not perform its intended functions according to user, customer, and/or stakeholder needs or expectations (which is usually different from the first!).

Chapter 5: Test Management

Risks and Testing: Product and Project Risks

Product risk /2

Some example product risks:

- A particular computation may be performed incorrectly in some circumstances.
- A loop control structure may be coded incorrectly.
- Response times may be inadequate for a high-performance transaction processing system.
- User experience (UX) feedback might not meet product expectations.

Chapter 5: Test Management

Risks and Testing: Product and Project Risks

Project risk /1

some categories

- ❑ Project issues
- ❑ Organizational issues
- ❑ Political issues
- ❑ Technical issues
- ❑ Suppliers issues

Chapter 5: Test Management

Risks and Testing: Product and Project Risks

Project risk /2

Project issues

- ➔ Delays may occur in delivery, task completion or satisfaction of exit criteria or definition of done. For example, logistics or product quality problems may block tests: These can be mitigated through careful planning, good defect triage and management, and robust test design.

Chapter 5: Test Management

Risks and Testing: Product and Project Risks

Project risk /3

Project issues

- ➔ Inaccurate estimates, reallocation of funds to higher priority projects, or general cost cutting across the organization may result in inadequate funding.
- ➔ Late changes may result in substantial rework. For example, excessive change to the product may invalidate test results or require updates to test cases, expected results and environments. These can be mitigated through good change control processes, robust test design and lightweight test

Chapter 5: Test Management

Risks and Testing: Product and Project Risks

Project risk /4

Organizational issues

- ➔ Skills, training and staff may not be sufficient. For example, shortages of people, skills or training may lead to problems with communicating and responding to test results, unrealistic expectations of what testing can achieve, and needlessly complex project or team organization.

Chapter 5: Test Management

Risks and Testing: Product and Project Risks

Project risk /5

Organizational issues

- ➔ Personnel issues may cause conflict and problems, affecting work. For example, if two people do not get along, working against each other rather than toward a common goal (it happens), this is demoralizing to the whole team as well as degrading the quality of everyone's work.
- ➔ Users, business staff or subject matter experts may not be available due to conflicting business priorities.

Chapter 5: Test Management

Risks and Testing: Product and Project Risks

Project risk /6

Political issues

➔ Testers may not communicate their needs and/or the test results adequately. For example, high-level managers may not realize the need for ongoing support, time and effort for test automation after an initial start, if testers and automators do not communicate the need for this.

Chapter 5: Test Management

Risks and Testing: Product and Project Risks

Project risk /7

Political issues

- ➔ Developers and/or testers may fail to follow up on information found in testing and reviews (for example not improving development and testing practices).
- ➔ There may be an improper attitude toward, or expectations of, testing (for example not appreciating the value of finding defects during testing).

Chapter 5: Test Management

Risks and Testing: Product and Project Risks

Project risk /8

Technical issues

➔ Requirements or user stories may not be clear enough or well enough defined. For example, ambiguous, conflicting or unprioritized requirements, an excessively large number of requirements given other project constraints, high system complexity and quality problems with the design, the code or the tests mean that the system will take longer to develop and may not meet customer expectations. The best cure for this is clear unambiguous requirements.

Chapter 5: Test Management

Risks and Testing: Product and Project Risks

Project risk /9

Technical issues

➔ The requirements may not be met, given existing constraints. For example, a requirement may want the app to be able to check the user's bank balance to see if they can pay for what they are ordering, but the bank software does not allow it.

Chapter 5: Test Management

Risks and Testing: Product and Project Risks

Project risk /10

Technical issues

➔ The test environment may not be ready on time or may not be adequate. For example, insufficient or unrealistic test environments may yield misleading results, including false positives and false negatives. One option is to transfer the risks to management by explaining the limits on test results obtained in limited environments. Mitigation, sometimes complete alleviation, can be achieved by outsourcing tests such as performance tests that are particularly sensitive to proper test environments, or by using virtualization.

Chapter 5: Test Management

Risks and Testing: Product and Project Risks

Project risk /11

Technical issues

- ➔ Data conversion, migration planning and their tool support may be late.
- ➔ Weaknesses in the development process may impact the consistency or quality of project work products such as design, code, configurations, test data and test cases. For example, test items may not install in the test environment. This can be mitigated through smoke (or acceptance) testing prior to starting other testing or as part of a nightly build or continuous integration. Having a defined uninstall process is

Chapter 5: Test Management

Risks and Testing: Product and Project Risks

Project risk /12

Technical issues

➔ Poor defect management and similar problems may result in accumulated defects and other technical debt.

Chapter 5: Test Management

Risks and Testing: Product and Project Risks

Project risk /13

Suppliers issues

- ➔ A third party may fail to deliver a necessary product or service or go bankrupt.
- ➔ Contractual issues may cause problems to the project. For example, problems with underlying platforms or hardware, failure to consider testing issues in the contract, or failure to properly respond to the issues when they arise can quickly add up to serious delays as well as time-consuming negotiations with a supplier. The best way to mitigate this is

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Risks and Testing: Risk-based Testing and Product Quality

Risk management

Dealing with risks within an organization is known as risk management, and testing is one way of managing aspects of risk.

4 typical options for product or project risk:

1. Mitigate
2. Contingency
3. Transfer
4. Ignore

Chapter 5: Test Management

Risks and Testing: Risk-based Testing and Product Quality

Risk management

- Mitigate: Take steps in advance to reduce the likelihood (and possibly the impact) of the risk.
- Contingency: Have a plan in place to reduce the impact should the risk become an outcome.
- Transfer: Convince some other member of the team or project stakeholder to reduce the likelihood or accept the impact of the risk.
- Ignore: Do nothing about the risk, which is usually a smart option only when there's little that can be done or when the likelihood and impact are low.

Chapter 5: Test Management

Risks and Testing: Risk-based Testing and Product Quality

Risk management activities include:

- Identifying and analyzing (and re-evaluating on a regular basis) what can go wrong.
- Determining the priority of risks, which risks are the most important to deal with.
- Implementing actions to mitigate those risks, to reduce their likelihood or impact or both.
- Making contingency plans to deal with risks if they do happen.

Chapter 5: Test Management

Risks and Testing: Risk-based Testing and Product Quality

Risk analysis

The process of identifying and assessing potential risks and challenges associated with the development, deployment, and maintenance of software systems.

Chapter 5: Test Management

Risks and Testing: Risk-based Testing and Product Quality

Migration options

TABLE 5.2 A risk analysis template

Product risk	Likelihood	Impact	Risk priority number	Mitigation
Risk category 1				
Risk 1				
Risk 2				
Risk n				

Chapter 5: Test Management

Risks and Testing: Risk-based Testing and Product Quality

Concluding thoughts on risk

To summarize, the results of product risk analysis are used for the following purposes:

- To determine the test techniques to be used.
- To determine the particular levels and types of testing to be performed (for example functional testing, security testing, performance testing).
- To determine the extent of testing to be carried out for the different levels and types of testing.

Chapter 5: Test Management

Risks and Testing: Risk-based Testing and Product Quality

Concluding thoughts on risk

the results of product risk analysis are used for the following purposes:

- To prioritize testing in order to find the most critical defects as early as possible.
- To determine whether any activities in addition to testing could be employed to reduce risk, such as providing training in design and testing to inexperienced developers.

Chapter 5: Test Management

Defect Management

Defect management in software testing is the systematic process of identifying, documenting, prioritising, tracking, and resolving issues within a product.

Defect is commonly called incident, bug, problem or issue.

Chapter 5: Test Management

Defect Management

We will cover the following topic:

- ★ What are defect reports for?
- ★ Objectives for defect reports
- ★ How to write a good defect report: some tips
- ★ What goes in a defect report?
- ★ What happens to defect reports after you file them?

Chapter 5: Test Management

Defect Management

What are defect reports for?

- Actual results that vary from Expected results during test execution - commonly they are called incidents, bugs, defects, problems or issues.
- A defect report is a document that describes a defect, including its severity, priority, and steps to replicate the problem. A defect report's primary purpose is to help the developers quickly reproduce and fix the fault. It is an effective way of communicating and tracking the defect throughout its life cycle.

Chapter 5: Test Management

Defect Management

Objectives for defect reports /1

The goal of defect reports is to help the development team's various stakeholders, developers, testers, project managers, and occasionally even end users communicate with one another.

Typical objectives for such reports include the following:

- To provide developers, managers and others with detailed information about the behaviour observed (the adverse event), that is, the defect.

Chapter 5: Test Management

Defect Management

Objectives for defect reports /2

- To support test managers in the analysis of trends in aggregate defect data.
- To enable defect reports to be analyzed over a project.

Chapter 5: Test Management

Defect Management

How to write a good defect report: some tips /1

- Title or Summary
- Priority & Severity of the defect
- The impact of the defect/problem on the users, customers and other stakeholders is important
- Choice of words in defect reports should be clear and unambiguous
- You should also be neutral, fact-focused and impartial

Chapter 5: Test Management

Defect Management

How to write a good defect report: some tips /2

- Keep the report concise that helps keep people's attention
- Use a review process for all reports filed

❑ Sample of writing good report in JIRA

Chapter 5: Test Management

Defect Management

What goes in a defect report? /1

A defect report filed during dynamic testing typically includes the following:

- An identifier
- A title and short summary of the defect being reported
- Date of the defect report, issuing organization, the date and time of the failure, the name of the tester, that is, the author of the defect report (and perhaps the reviewer of the test).

Chapter 5: Test Management

Defect Management

What goes in a defect report? /2

A defect report filed during dynamic testing typically includes the following:

- Identification of the test item (configuration item being tested), the test environment and any additional information about the configuration of the software, system or environment.
- The development life cycle activity(s) or sprint in which the defect was observed.

Chapter 5: Test Management

Defect Management

What goes in a defect report? /3

- A description of the defect to enable reproduction and resolution, such as the steps to reproduce and the isolation steps tried.
- The expected and actual results of the test.
- The scope or degree of impact (severity) of the defect on the interests of stakeholder(s).
- Priority/Urgency to fix.

Chapter 5: Test Management

Defect Management

What goes in a defect report? /4

- State of the defect report (for example open, deferred, duplicate, waiting to be fixed, awaiting confirmation testing, re-opened, closed).
- Conclusions, recommendations and approvals.
- Global issues, such as other areas that may be affected by a change resulting from the defect.

Chapter 5: Test Management

Defect Management

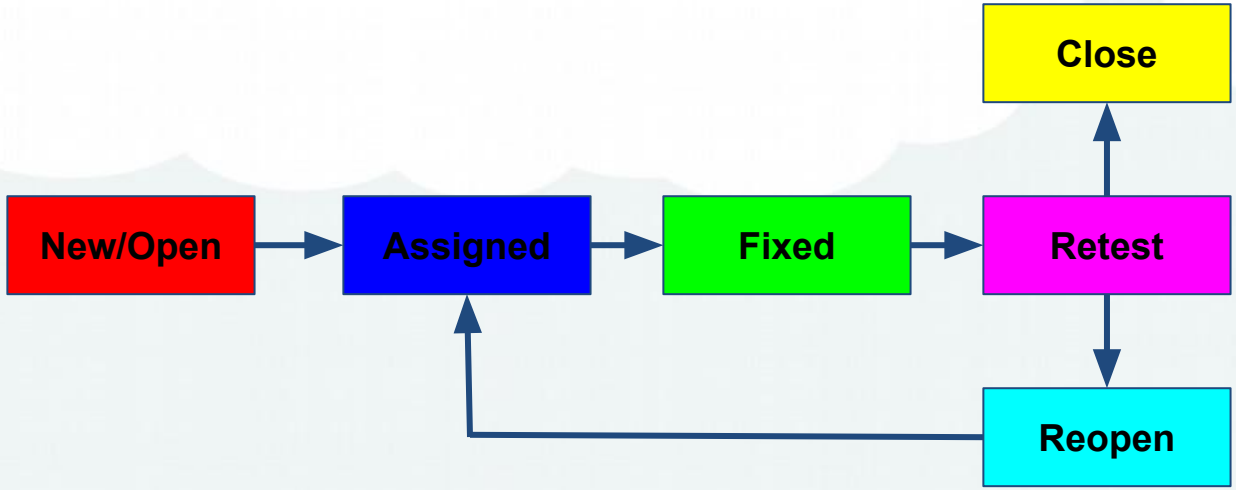
What goes in a defect report? /5

- Change history, such as the sequence of actions taken by project team members with respect to the defect, to isolate, repair and confirm it as fixed. These fields should mention the inputs given and outputs observed, the different ways you could - and could not - make the problem recur, and the impact.
- References, including the test case that revealed the problem, and references to specifications or other work products that provide information about correct behaviour.

Chapter 5: Test Management

Defect Management

What happens to defect reports after you file them?




Thank
You
So
Much!