TMap

System, Acceptance and
Development Testing

Lesson Objectives

- System and Acceptance Testing
- TMap Phase ring model
- Different phases of the Phase Ring Model
- Phases of Testing
- Development Testing
- Development vs System/Acceptance Testing
- Disadvantages of Development Tests
- Advantages of Development Tests

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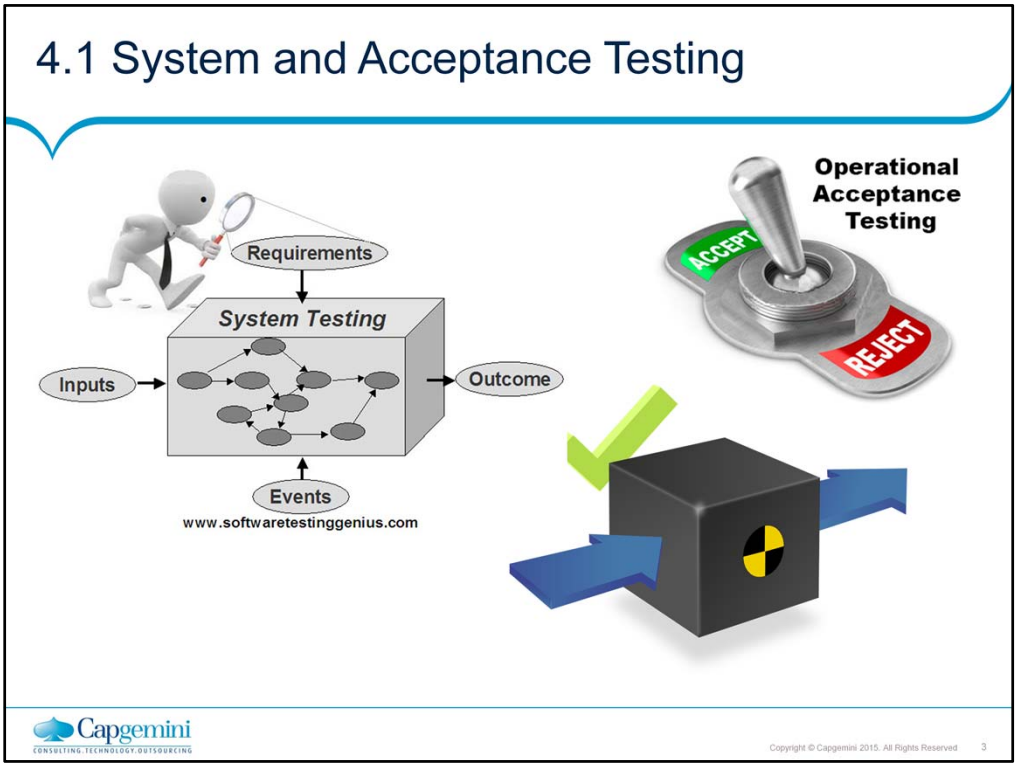
4.1 System and Acceptance Testing
Requirements
System Testing
Inputs
Outcome
Events
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Operational Acceptance Testing
ACCEPT
REJECT
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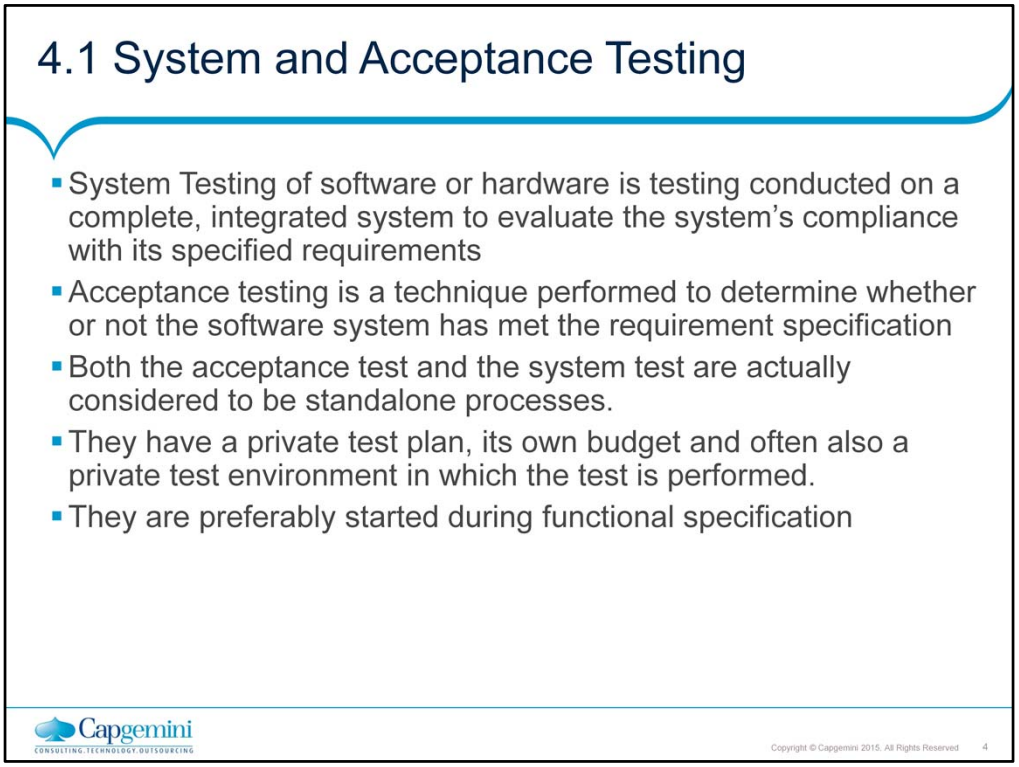
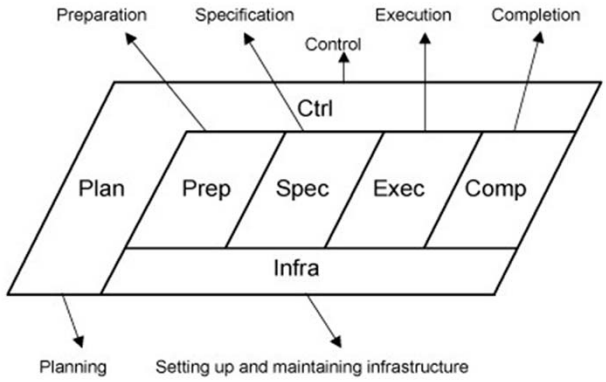


The ***supplier*** shall carry out the *system test* to determine whether the system meets the functional and technical specifications. Thus it tests that what must be delivered is actually delivered. After the supplier has carried out the system test, the errors found has restored and with a positive result to the re-test has obtained, the system is sent to the *acceptance test* and offered to the ***client***.

4.2 TMap Phase Ring Model

- The process of the acceptance test and the system test consists of a number of different activities



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The stages described above do not always entirely sequential to be carried out. For example, it is quite possible that test cases for a part of the test must be specified (phase Specification), while the test version (Execution phase) for another part of the test is started. This is a situation which often occurs in the case of projects where the software is delivered in stages

4.2 TMap Phase Ring Model

- For an overview of the mapping of the various activities, with their mutual sequence and dependencies, consists the TMap phase ring model.
- This is a generic model and is applicable for both test species.
- The acceptance test and the system test do give each their own specific interpretation to the phase ring model.

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4.3 Different Phases of the Phase Ring Model

- Planning Phase
- Control Phase
- Setting up and maintaining infrastructure Phase
- Preparation Phase
- Specification Phase
- Execution Phase
- Completion Phase

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4.4 Phases of testing

- Planning Phase
  - The formulation of a coherent and transferred approach with which the test job can be carried out properly
  - An important part of the planning is the preparation of the test plan to the client and other stakeholders to inform about the approach, planning, budget, activities and to deliver the (final) products with regard to the test process
  - If there is a parent master test plan, this plan should be based on that

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4.4 Phases of testing

- Control Phase
  - Providing the client with sufficient insight into, and the opportunity to influence the following:
    - the progress of the test process
    - the quality and risk of the test object
    - the quality of the test process.
- Setting up and maintaining infrastructure Phase
  - To provide the required test infrastructure, which is in the various TMap phases and activities.

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4.4 Phases of testing

- Preparation Phase
  - To obtain with the client's agreement, a test basis that is of sufficient quality for designing the test cases. In order to determine this, a testability review of the test basis is carried out during this phase, which will provide insight into the testability system.
- Specification Phase
  - During the specification phase, the required test and starting points are specified. The aim is to have as much as possible prepared, in order to be able to run the test as quickly as possible when the developers deliver the test object.

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4.4 Phases of testing

- Execution Phase
  - To obtain insight into the quality of the test object through the execution of agreed tests
- Completion Phase
  - To learn the experience gained during this test and to preserve testware for reuse in a future test.

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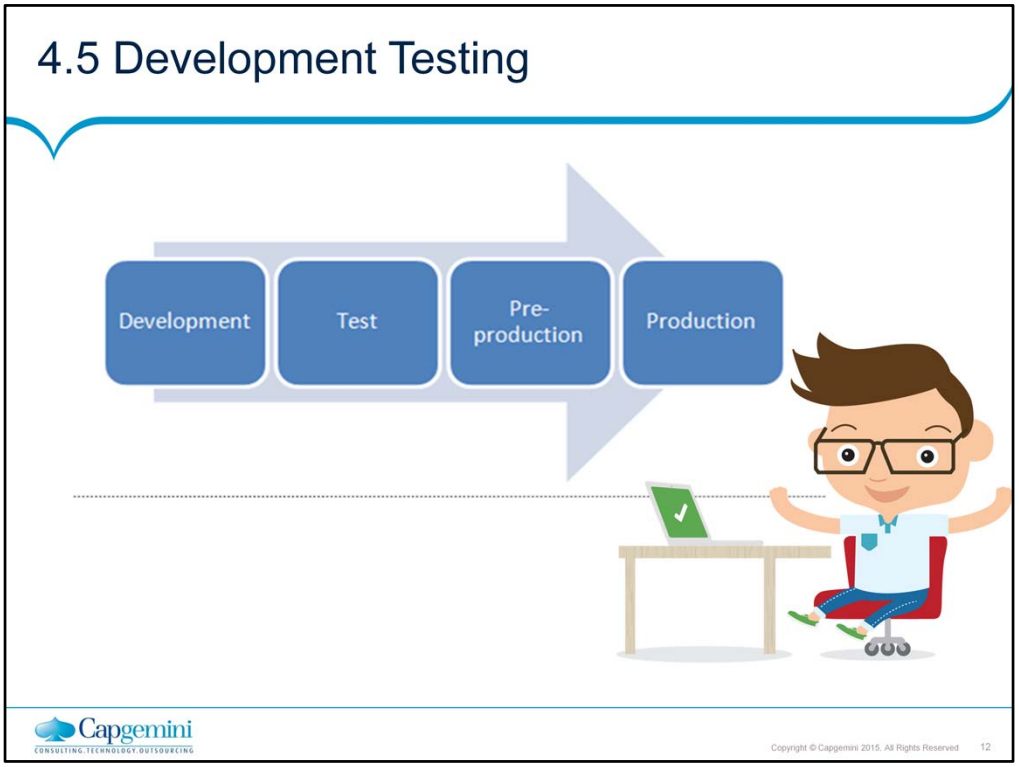
4.5 Development Testing
Development
Test
Pre-production
Production
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4.5 Development Testing

- Development testing is understood to mean testing using knowledge of the technical implementation of the system.
- This starts with the testing of the first/smallest parts of the system: routines, units, programs, modules, components, objects, etc.
- Within TMap, the term ‘unit’ and therefore unit test is used exclusively in this context
- Usually done by developers

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4.6 Development Test vs System/Acceptance Test

- The development tests cannot be organized as an independent process with a more or less independent team. The development test form an integral part of software development, and the phasing of the test activities is integrated with the activities of the developers.
- Since it is technical implementation of the system, other types of defects are found than those found by system and acceptance tests.
- The communication on the defects is minimal because the discoverer and the solver is the same person(i.e., developer) in unit tests

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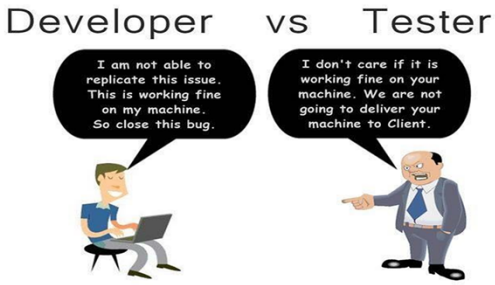
4.6 Development Test vs System/Acceptance Test

- The defects are detected and solved before the software is transferred.
- The test cases are run carelessly since the mindset of the developer is to demonstrate the product works whereas that of a tester is to demonstrate the difference between the required quality and the actual quality of the product.



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4.7 Disadvantages of Development tests

- Pressure of time/not cost-effective:
  - Assessment is usually made based on hard criterion such as lead-time and delivered functionality. Assessment by a much softer criterion, such as quality, is more difficult and is therefore rare in practice. A developer who is committed to a completion date will give less time to testing if the coding is in trouble.
- There will be another thorough test to follow:
  - Since there is another testing phase that follows which tests intensively, the developer doesn't bother to test the product extensively

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4.8 Disadvantages of Development tests

- Sufficient faith in quality:
  - A developer is usually proud of his product and considers it to be a good quality. It is therefore not logical as a developer to expend a lot of effort in finding fault with his own product

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4.9 Advantages of Development Tests

- Less reworking will be necessary after delivery
- The lead-time of the total development phase is shorter
- Reworking as early as possible is much cheaper than at a later stage, since all the knowledge of the developed products is still fresh in the memory
- The developers get faster feedback on the mistakes they make, so that they are better able to prevent similar mistakes in other units

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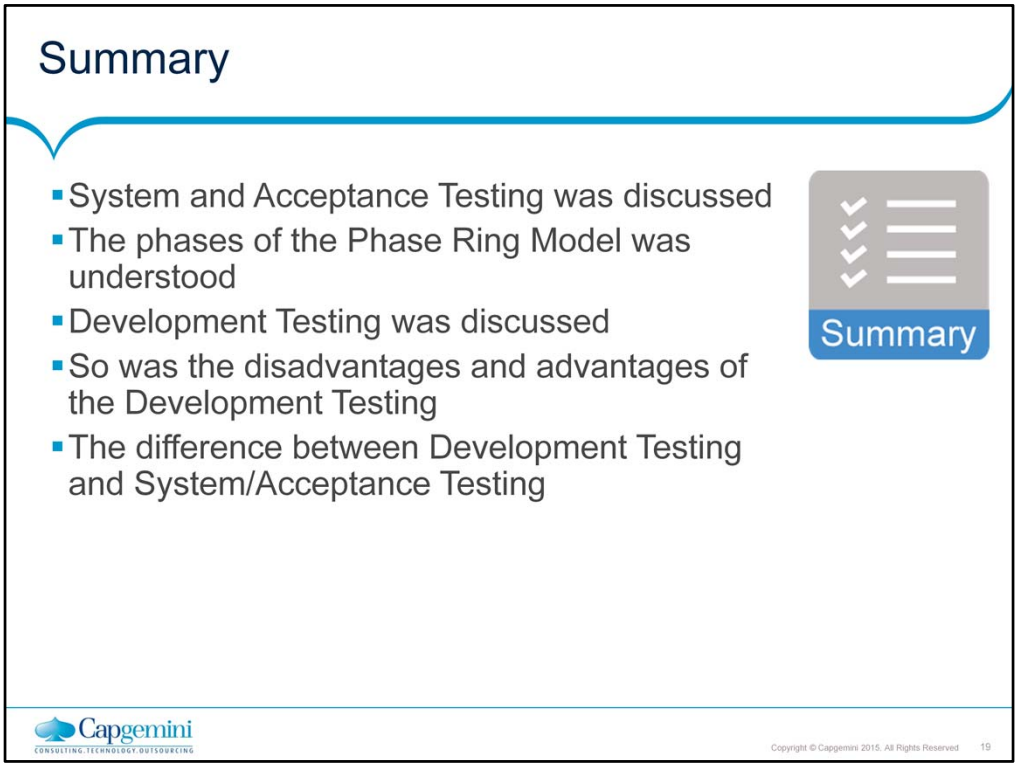

Add the notes here.

Review Question

- System Testing of software or hardware is testing conducted on different modules of the system
  - True
  - False
- What is the necessity for Testing phase after development if development testing is applied
  - There is no sufficient time for a thorough test
  - Developer can't think out of the box
  - Developer assumes that all the errors are resolved during initial coding
  - None of the above

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