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BCS3323 – Software Testing and Maintenance

Fundamental Test Process

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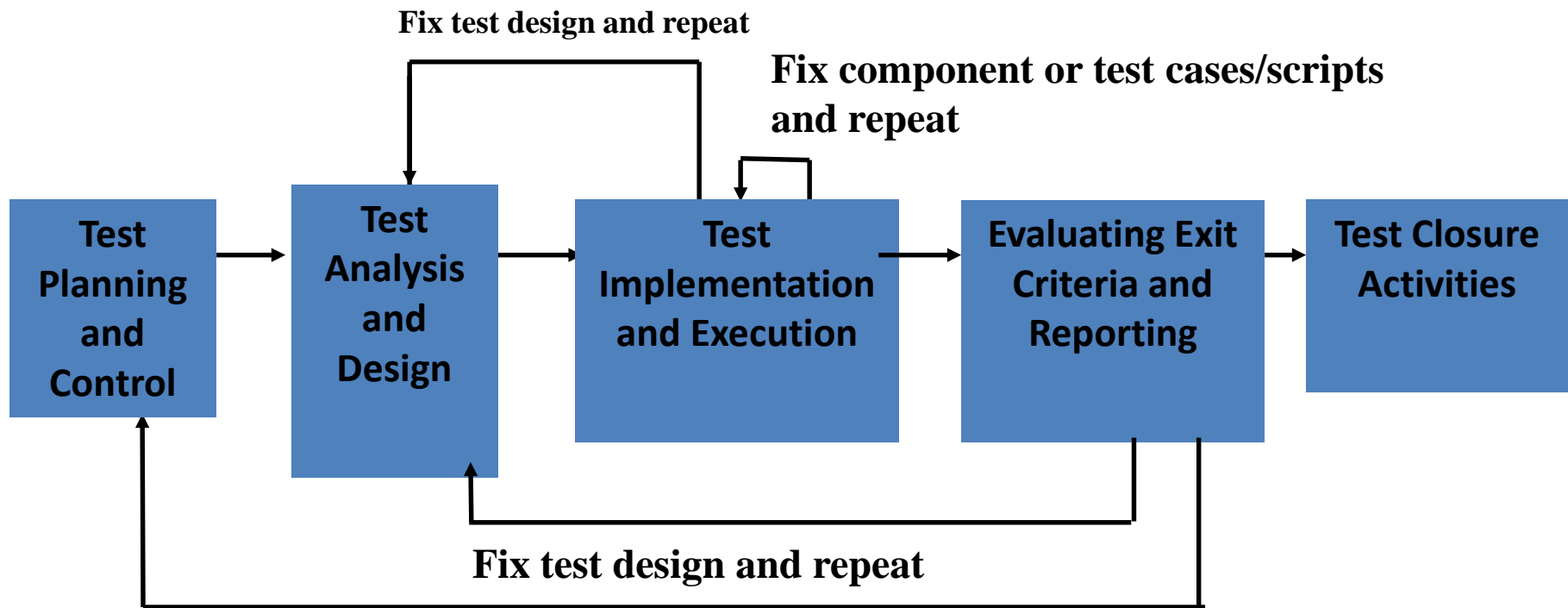**alswari@ump.edu.my**

Chapter 1.3

- Aims is to discover
  - The Fundamental Test Process phases
  - The purpose for each phase
  - The activities in each phase

- Expected Outcomes
  - Students can explain each phase
  - Know activates should be in each phase

- References
  - ISTQB
  - MSTB/GTB
  - http://www.softwaretestingclass.com/software-testing-tools-list/
  - http://www.softwaretestinggenius.com/articalDetails.php?qry=572#commentsList
  - https://www.guru99.com

Fundamental Test Process

5 Phases of the Fundamental Test Process

Fix test design and repeat

Fix component or test cases/scripts and repeat

| Test Planning and Control | → | Test Analysis and Design | → | Test Implementation and Execution | → | Evaluating Exit Criteria and Reporting | → | Test Closure Activities |

Fix test design and repeat

Fix component test plan and repeat

Test Planning and Control

- Planning
  - What to be tested?
  - Identify testing levels.
  - What kinds of test techniques to be employed?
  - Scheduling?
  - Resource allocation?
  - Start/Exit criteria?
- Control
  - Progress vs planned?
  - Progress monitoring?
  - Adjust plan based on the several criterias

Test Analysis and Design

- Test Analysis
  - Review test basis (e.g. requirements, design, interfaces etc.) to built test cases
  - Identify test conditions
  - Identify expected output
  - Identify passed and failed criteria
- Design
  - Evaluate testability
  - Design test cases, test procedures, test tracibility tabel (i.e. sampled ones)
  - Design the environmental setup.

Test Implementation and Execution

- Implementation
  - Develop and prioritize test cases
  - Develop test procedures (i.e. the instruction to carry out the test, scripts, infra structure set up)
  - Create test suite
- Execution
  - Execute test suites based on test procedures
  - Maintain test log of discrepancies (as incidence) in term of non-conformance
  - Check discrepancies i.e. confirmation testing/re-testing/regression testing

Evaluating Exit Criteria and Reporting

- Exit criteria
  - Check test log against exit criteria
  - Assess if more testing is required
  - Create test suite

  Example: covered all functions, run 100% of test cases, etc..

- Reporting
  - Write test summary report

  Document that consist of the activities and output done through the testing.

Test Closure Activity

- Exit criteria
  - Archive testware (e.g. scripts, test environment etc for reuse).
  - Handover testware to the maintenance team
  - Evaluate lessons learned.