Test Management Part 1

Test Planning Overview

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Objective

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Identify the major components of a system test plan

Test Planning

Test plans should be written for all testing levels:

- Unit
- Integration
- System
- Beta
- Acceptance

System Test Plan

- A well-thought out system test plan is essential to success of a testing effort
- System test plan must reflect an in-depth understanding of the objective of the system test as well as project constraints
- System test planning must begin early (during the software development requirements phase)

System Test Plan (continued)

The system test plan must address:

- System test objectives
- Dependencies and assumptions
- Adopted test strategy
- Specification of the test environment
- Specification of system test entry and exit criteria
- Schedule
- Risk management

System Test Objectives

- The system test plan must clearly define the objectives of the system test activity
- Possible objectives were presented in Unit 1

Dependencies and Assumptions

When creating the system test plan, all dependencies and assumptions must be identified

Examples include:

- Resource availability
- Software completed on time
- _____
- _____

Testing Strategy

Testing strategy defines how testing objectives will be met within project constraints

Testing strategy determines:

- Techniques to be used for test data generation
- Test environment
- Entry and exit criteria
- Schedule

Testing strategy is often risk-based

Specification of the Test Environment

Test environment issues include:

- Platforms to test on
- Simulators
- Testing tools

Selection of test environment is based on objective of testing and test strategy chosen

- Performance testing objective may require load generation tools
- Configuration testing objective may require additional resources and/or simulation tools

System Test Entry Criteria

- **Established based on test strategy to maximize test effectiveness**
- **Problems with beginning system test too early include:**
  - Inability to run all tests
  - Excessive communication with developers on problem fixes
  - High degree of retest
- **Possible entry criteria include :**
  - Code under configuration management
  - Completion of integration test
  - No outstanding high priority problems
  - Successful completion of system test readiness assessment

System Test Readiness Assessment

- Developed early in the project in conjunction with development
- Identifies functions and code stability needed to effectively begin system test
- Provides a concrete entry criteria for system test
- Provides a way for development to prioritize their activities as the start of system test grows near

Creation of System Test Schedule

Creation of a testing schedule requires the following activities:

- Identify all of the testing tasks to be performed
- Identify dependencies among the testing tasks
- Estimate the effort and resources needed to perform each task
- Assign tasks to individuals or groups
- Map testing tasks to a time line

Test Plan Risk Management

- System testing risks correspond to scenarios that could impact testing schedule or effectiveness
- Testing risks can be identified via checklists or previous project "lessons learned”
- Testing risks must be prioritized and mitigated
- Prioritization is based on likelihood of risk occurring and consequences
- Risk mitigation involves reducing the likelihood of the risk occurring and/or developing contingency plans to minimize impact of the risk should it occur

Summary