Software Testing for BI

Lesson 1: Introduction to
Software Testing for BI

Lesson Objectives

- To understand the following topics:
  - Business requirements
  - BI Project versus BI Program
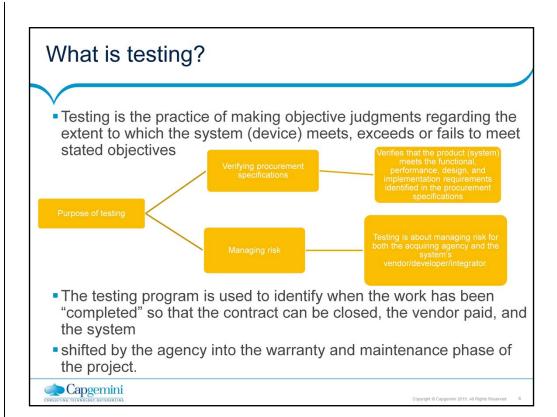 - How is BI testing different from traditional code based testing?

1.1: Business requirements

Introduction to STBI

- BI solutions development uses a distinctly different lifecycle to conventional software development
- It is iterative in nature where a single project develops subset of a more extensive BI environment.
- Thus each deliverable must go beyond meeting just the stated requirements and provide a solid foundation upon which future solutions or iterations are built.
- Beyond the differences imposed by the different lifecycle, there are several other differences that add to the complexity

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What is testing?

- Testing is the practice of making objective judgments regarding the extent to which the system (device) meets, exceeds or fails to meet stated objectives

Purpose of testing

Verifying procurement specifications

Verifies that the product (system) meets the functional, performance, design, and implementation requirements identified in the procurement specifications

Managing risk

Testing is about managing risk for both the acquiring agency and the system's vendor/developer/integrator.

- The testing program is used to identify when the work has been "completed" so that the contract can be closed, the vendor paid, and the system
- shifted by the agency into the warranty and maintenance phase of the project.

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1.1: Business requirements

Introduction to STBI (Cont…)

- Analysis for software development produces a relatively stable set of requirements that serve as the basis of system design.

- BI requirements are less clear and change more rapidly.

- This circumstance makes testing of requirements difficult and creates downstream challenges when testing designs, software components, and other deliverables.

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1.2: BI Project verses BI program

What is BI project

- A typical software development project is self-contained.
- Dependencies are few and testing is finished when the project is completed.
- The BI program is an ongoing program without a finite end.
- Development is iterative and the system will evolve over time.
- With the continuous nature of BI development and operation there is a demand for testing.

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1.3: Why BI ST
Why is BI testing required?

- DW/BI pose a significant threat to organizations or applications with huge volume of data. For Eg: Banks/Financial Institutes, Insurance, Telecom etc.

- In such Institutes, the Information accuracy, consistency and reliability, information validation, data loss, reporting inefficiencies and data security are some of the important challenges that needs to be tested.

- To address these issues, the primary focus of DW/BI testing is to ensure competent and perfect database structures, ETL processes, front-end access and BI reports generations processes.

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1.4: How is BI testing different from traditional code based testing?

Objective of BI testing

- Software testing is predominantly testing of program code
- Verifying that it works correctly and does not fail.
- BI testing is directed at data, information and reports.
- Code failure is more readily defined and isolated than failure of data and information.
- Testing Strategy plays critical role in ensuring a common best practice testing process for the implementation of the BI Solutions.

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1.4: How is BI testing different from traditional code based testing?

Objective of BI testing (Cont…)

- The strategy brings in a broad understanding of Business Intelligence architecture

- It highlights the testing challenges and the value addition to the SDLC process

- It identifies generic validation approaches and the best practices for testing BI Applications.

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Summary

- In this lesson, you have learnt:
  - Business intelligence software testing uses a distinctly different lifecycle to conventional software development
  - It identifies generic validation approaches and the best practices for testing BI Applications.

Summary

Review Questions

- Question 1: Data Warehouse Development Life Cycle has ___ phases.
  - Option 1: 5
  - Option 2: 6
  - Option 3: 7

- Question 2: Analysis phase identifies the data sources
  - Option: True / False

- Question 3: A data warehouse is really a completed project.
  - Option: True / False