

Certified Tester Model-Based Tester (CT-MBT)

1 Introduction to Model-Based Testing

1.1 Objectives and Motivations for MBT

1.1.1 Main Motivations for MBT

1.1.2 Misleading Expectations and Pitfalls of MBT

1.2 MBT Activities and Work Products in the Test Process

1.2.1 MBT Specific Activities

1.2.2 Essential MBT Work Products (Inputs and Outputs)

1.3 Integrating MBT into the Software Development Lifecycles

1.3.1 MBT in Sequential and Iterative Software Development Lifecycles

1.3.2 Supporting Requirements Engineering

2 MBT Modeling

2.1 MBT Modeling

2.1.1 MBT Modeling Activities

2.1.2 Focus of MBT Models

2.1.3 MBT Models Depend on Test Objectives

2.2 Languages for MBT Models

2.2.1 Main Categories of Modeling Languages for MBT

2.2.2 Language Categories Relevant for Different Systems and Project Objectives

2.3 Good Practices for MBT Modeling Activities

2.3.1 Quality Characteristics for MBT Models

2.3.2 Typical Mistakes and Pitfalls in MBT Model Design

2.3.3 Linking Requirements and Process Related Information to the MBT Model

2.3.4 Modeling Guidelines for MBT

2.3.5 Reuse of Existing System Design or Requirements Models .

2.3.6 Tool Support for Modeling Activities

2.3.7 Iterative Model Development, Review and Validation

3 Selection Criteria for Test Case Generation Criteria

3.1 Classification of MBT Test Selection Criteria.

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3.1.2 Test Case Selection in Practice

3.1.3 Examples of Test Selection Criteria

3.1.4 Examples of Test Selection Criteria

3.2 Applying Test Selection Criteria

3.2.1 Degree of Automation in Test Generation

3.2.2 Pros and Cons of Specific Test Selection Criteria

3.2.3 Good Practices of MBT Test Selection

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4.1 Specifics of MBT Test Implementation and Execution

4.1.1 High-level and Low-level Test Cases in the MBT Context

4.1.2 Different Kinds of Test Execution

4.1.3 The Impact of Changes on the MBT Work Products

4.2 Activities of Test Adaptation in MBT

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5.1.1 ROI Factors for MBT Introduction

5.1.2 Organizational Objectives and their Relationship to the Characteristics of the MBT Approach

5.1.3 Metrics and Key Performance Indicator

5.2 Manage and Monitor the Deployment of an MBT Approach

5.2.1 Good Practices when Deploying MBT

5.2.2 Cost Factors of MBT

5.2.3 Integration of the MBT Tool

