

Requirements and Use Cases

Length:

4 days

Description:

This course will prepare professionals to develop requirements with a special emphasis on use cases, and interpret use cases for application in all areas of the Software Life Cycle. This course uses an example project and project groups with defined roles to better simulate a real world experience. The project is exercised through two major iterations showing the level of detail and deliverable artifacts expected. With each iteration, professionals will be taught techniques to improve their requirements and meet their goals.

This course is divided into five specific parts. The first part introduces the professionals to the overall process by over viewing the major components. The second and third parts prepare them by developing project requirements using the iterative process. The fourth part concludes the course with miscellaneous topics such as other uses for use cases and refactoring. Finally, the fifth part contains appendixes such as a UML Quick Reference Card, Requirements Templates and a Glossary.

Objectives:

Upon completion of the course, professionals performing an analyst role will be able to:

- Define requirement types and business rules
- Capture requirements from users
- Organize these into a clear message from users to developers
- Review requirements informally at every stage, then formally
- Apply designated criteria to defined requirements to validate a “good” requirement
- Define a use case
- Diagram a use case using standard UML (Unified Modeling Language) notation
- Given a scenario, develop a use case that is complete, correct and consistent

Audience:

This course is designed for professionals performing in an analysis role and software projects.

Prerequisites

- A general understanding of object-oriented analysis and design concepts
- Basic computer skills and a familiarity with Windows-based applications

Course Contents:

Chapter 1 - Introduction

- Course Overview
- Instructor and Student Introductions
- Course Objectives
- Prerequisites
- Overview of the Materials
- Tools Used in Class
- Format of the Course
- Course Logistics

Chapter 2 - Overview of Standards

- What is a Requirement?
- Types of Requirements

- What is a Process?
- What is a Methodology?
- How is Technology Used?

Chapter 3 - Overview of OOAD, USDP and RUP

- What is OOAD?
- Why We Use OOAD?
- Basic Concepts
- What is USDP?
- Why We Use USDP?
- Basic Concepts
- Core Features
- Extensions (RUP, XP)

Chapter 4 – The Requirements Package

- What is a Requirements Package?
- What Does it Contain?
- Best Practices
- How to Set Up Traceability
- Document Management and Versioning

Chapter 5 – The First Iteration

- The Use Case Driven Approach
- Why use the Use Case Driven Approach?
- Use Case Terms
- Goals and Scope
- Workshop 1: Finding Actors and Use Cases
- Workshop 2: Creating a Use Case and Actor Index
- Workshop 3: Writing a Good Requirement
- Workshop 4: Writing the Stimulus
- Workshop 5: Completing the Remaining Use Cases
- Workshop 6: Formal Review Meeting

Chapter 6 – Overview of UML

- What is UML?
- Why We Use UML
- Brief History of UML
- UML Concepts
- UML Diagrams
- Basic Notation

Chapter 7 - Documenting Requirements with UML

- Using a Visual Tool to Document the Graphical Model
- Getting Started with a Visual Tool
- Workshop 1: Creating and Activity Diagram
- Workshop 2: Creating Actors, Use Cases and the Primary Flow Diagram

Chapter 8 – The Second Iteration

- Getting Ready for the Second Iteration
- Workshop 1: Pre-Conditions
- Workshop 2: Post-Conditions
- Workshop 3: Primary Flow and Alternate Flows
- Workshop 4: Exceptions

- Workshop 5: Special Requirements
- Workshop 6: Associations
- Workshop 7: Remaining Sections
- Workshop 8: Completing the Remaining Use Cases
- Workshop 9: Formal Review Meeting

Chapter 9 – Documenting Requirements with More UML

- Linking Sub Use Cases
- Workshop 1: Associations
- Workshop 2: Packages
- Workshop 3: Sequence Diagrams

Chapter 10 – What Happens Next

- Completing Analysis
- Construction
- Transition
- How to Handle Changes
- Traceability

Part 4 – Conclusion

Chapter 11 - Use Cases in Other Parts of the Process

- Use Cases to UI Design Content Model
- Use Cases to Test Cases
- Use Cases to Reports
- Use Case Realizations
- Examples

Chapter 12 - Refactoring and Miscellaneous Topics

- Reverse Engineering
- Managing Small Changes
- Managing Small Projects
- Managing Maintenance Tasks
- Examples

Part 5 – Appendix

Appendix A - Glossary

Appendix B – UML Quick Reference

Appendix C – Requirements Templates