Learning Use Cases and UML

Brief Description 2 - 3 Days

The workshop teaches the Unified Modeling Language (UML) and an understanding of the Unified Process and how to incorporate them into a repeatable development process at your organization. The course teaches and provides exercises in modeling techniques used for scoping, analysis and design for object-oriented development projects. The UML diagramming is taught using an interactive hands on case study and Visio with a live instructor. An optional third day lab can be included to work on real life projects using the analysis and design techniques taught in class.

Detailed Description

The Learning Use Cases & UML Techniques Course provides training in the methodology needed for capturing and modeling the artifacts for Object-Oriented and Legacy System development. The class provides a life cycle and techniques used for IT process improvement using use cases and the Unified Modeling Language (UML). The course focus is on how to:

- Develop use cases and build analysis and design deliverables using the Unified Modeling Language (UML)
- Implement a repeatable process for project initiation, requirements analysis, analysis and detailed design phase of the SDLC

The objectives of the course are to:

- Provide an understanding of the Software Development Life Cycle, methodology steps and artifacts needed for Object-Oriented Development Projects
- Provide practical group exercises for building UML artifacts using the UML notations
- Provide an optional lab for creating real life deliverables for analysis and design
- How to plan projects using an iterative and incremental approach

Course Content

Day 1 AM

Class Introduction

UML Concepts

- Terms to get acquainted with
- History, scope, and philosophy of the UML
- Major types of diagrams supported by UML

Overview of the Project Life Cycle and UML Project Artifacts

Discovery Phase- Project Definition/Scope of the Project

- Principles and terminology for Discovery-Problem Statement/Scoping Phase
- Constructing the Use Case Diagram (Project Scope) using UML
• **Case Study Exercise- Building the Use Case Diagram**

**Discovery Phase- Requirements Analysis**
- Principles and terminology for Discovery- Requirements Analysis Phase of the Project Life Cycle
- Constructing the Activity/Swimlanes Workflow Diagram using UML
  - UML notations
  - Uses of Activity Diagrams in the project life cycle
- Writing the High Level Use Case for Requirements Analysis
  - Guidelines for writing the use cases
  - Templates and samples
- **Case Study Exercises - Building Activity/Swimlanes Workflow Diagrams and Writing High Level Use Cases for Requirements Definition**

**Day 1 PM**

**Discovery Phase- Requirements Analysis**
- How to identify objects and build the object model
- **Case Study Exercise- Building the Object Model using UML**

**Analysis & Design using UML Artifacts**
- Principles and Terminology for the Analysis & Design Phase of the Project Life Cycle
- Creating the detailed use case diagram
  - How to identify use case dependencies
  - Notations for includes and excludes use cases
- **Case Study Exercise- Creating the detailed use case diagram**
- Writing Detailed Use Cases
  - Guidelines and templates for writing Detailed Use Cases
  - Building prototypes
- **Case Study Exercise- Writing Detailed Use Cases and building wireframes for the Analysis/Design Phase**

**Day 2 AM**

**Analysis & Design using UML Artifacts**
- Use Case realization – transforming the “what” to the “how”
  - Use case realization package
  - Interaction Diagrams
  - View of Participating Classes
  - Traceability diagram for all use cases
- Constructing the Collaboration Diagram
- **Case Study Exercise- Creating the collaboration diagram**
- How to build a Sequence Diagram using the UML notations
- Define the object operations (methods), a flow of control and links between objects.
- **Case Study Exercise- Building the Sequence Diagram**
- Creating the Global Class Diagram
Identify the classes, methods, associations, multiplicities, inheritance and constraints.

Reconcile the realizations- redundancies, missing classes and inconsistencies

- **Case Study Exercise- Global Class Diagram**
- Constructing the State Diagram
- **Case Study Exercise- Building the State Diagram**

**Day 2 PM**

Case Study Exercise using the Analysis and Detailed Design deliverables

**Who Should Attend?**

Those who will find this of value are: Team Leads, Developers, Business Analysts, Business Systems Analysts, System Analysts, Solutions Analysts, Information Architects, Designers, and Project Managers.