

Business Analysis for Object-Oriented Projects with UML 2 (3 Days)

Course Description

The key to effective business analysis is to provide specification of a what a functionality a software system will provide its users, rather than a how a the software will be designed. But too often traditional business analysis produces artifacts and specifications that do not align with the concepts of object-oriented design and development. This course focuses on how business analysts and business systems analysts can provide object-oriented developers with concise specifications of the problem domain within which a software solution will be constructed. Students will learn the power of the Unified Modeling Language version 2 (UML 2) for expressing business concepts and project goals using object-oriented models, to prepare for either in-house, or out-sourced, technical design and implementation. Extensive hands-on exercises using two complete, and parallel, case studies assure that students see how a concept is modeled, and then have the opportunity to immediately apply and test their understanding.

Audience

Business analysts and project managers who need a common, practical technique for constructing business analysis specifications of object-oriented systems.

Prerequisites

Experience in analysis is desirable, but not mandatory.

Course Contents

The Role of the IT Business Analyst

Context of IT Business Analyst
The IT-BAs Responsibilities
What the IT-BAs Deliver
Types of System Requirements
The Requirements Flow
IT Business Analyst as Enabler
What the IT-BAs Do Not Do

Concepts of Object-Oriented

Why is Object Thinking Important to You?
Concept: Object
Concept: Object Operations
Concept: Class
Concept: Objects from a Class
Concept: Relationships
Concept: Abstraction

The UML and the IT Business Analyst

Business Domain Modeling
Structural Domain Models
Behavioral Domain Models
Functional Models
Data Models
The Unified Modeling Language
Structure Analysis Diagrams vs. UML
Why IT-BAs Should Develop UML Models

Object-Oriented Analysis

The Big Picture of a Project for the IT-BAs
Goals of the IT-BAs Analysis Activities
Inputs to the Analysis Activities
Analysis Activities for the IT-BAs

Outputs from the Analysis Activities
What are the Analysis Models?

Identify Analysis Classes

Identify Candidate Entities
Challenge the Candidate Entities
Construct the Domain Model

Responsibility-Driven Analysis

Construct Responsibility Specifications
Construct CRC Representations
CRC Defined
CRC Cards
Simulation Sequence Diagram

UML Overview The 13 Diagrams

The Unified Modeling Language
UML Version 2
The 13 Diagrams
UML and Us
Definition of the UML Structural Model

UML Relationships

Association
Aggregation & Composition
Association Class
Inheritance

Developing The Analysis Class Diagram

UML Classes, Objects & Stereotypes
Responsibility-Driven Class Definition
Step 1: Identify the Analysis Classes
Step 2: Identify Classes with Relationships
Step 3: Identify Relationship Semantics
Step 4: Identify Relationship Multiplicity

The UML Behavioral Model

Analysis Behavioral Models
The 7 Behavioral Models in UML

Developing The Sequence Diagram

Sequence Diagram Structure
Interaction Frames & Operators
Special Tips for Analysis Sequence Diagrams
Modeling Exercise: Sequence Diagram
Updating the Class Diagram

The Communication Diagram

Communication / Sequence Diagram
Isomorphism

Developing The State Machine Diagram

Defining State
State Machine Diagram Structure
States, Events, Actions, Activities & Transitions
Updating the Class Diagram

Developing The Activity Diagram

Activity Diagram Structure

Putting It All Together

What Have We Accomplished?