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Roadmap to Success: Analysis Modeling
(Instructor-led Classroom)

Seminar Description

This intensive seminar builds skills in analysis modeling, a crucial activity for successful requirements development. Designed for attendees who have taken our ***Foundation*** self-paced offering, this instructor-led seminar dives into the Requirements Roadmap so you learn how to build and verify analysis models. The Roadmap is a set of interrelated models (behavioral, structural, dynamic, and control) at varying levels of detail.

You will learn how to produce quality analysis models that save product development time and money. You will learn how models interconnect to weave a rich set of requirements representations. You will learn which models to employ based on the problem domain and ways to calibrate the precision of the models to conduct "just enough" analysis. You will explore which analysis models to use for maintenance and COTS projects (Commercial Off-The-Shelf software, i.e., software packages).

Using an integrated case study, you will work in small groups to create the requirements (analysis) models and to simulate requirements workshops. The seminar emphasizes the need to achieve high-quality requirements that are correct, clear, consistent, complete, and relevant using simple and practical quality assurance techniques. It emphasizes how to deliver requirements quickly without compromising quality.

The seminar material includes detailed text and illustrations. You also get a rich, reusable set of requirements tools: a case study, various templates, worksheets, and checklists. Each student also gets a copy of *The Software Requirements Memory Jogger: A Pocket Guide to Help Software and Business Teams Develop and Manage Requirements*

Audience

This seminar is valuable for business analysts, subject matter experts, business rule analysts, application analysts, data or object analysts, data architects, data administrators, project managers, project leaders, and application designers—any personnel who are involved in discovering, analyzing, specifying, verifying, validating, specifying, and translating business requirements into software requirements and analysis models.

Prerequisites

Roadmap to Success: Foundation for Requirements Development and Management
(or equivalent experience)

Seminar Length

2 days

Objectives

- Understand how different focuses (questions) are useful to define user requirements
- Identify the four model views and list models for each view
- Define scope-level user requirements:
  - Identify stakeholders with a vested interest in the product
  - Uncover events and responses to establish the basis for functional requirements
  - Draw a context diagram to visualize the product boundaries and crosscheck the events and responses
  - Model conceptual data requirements that align with the events
  - Identify business policies relevant to the events and data requirements
- Model high-level and detailed product requirements:
  - Learn the purpose and utility of use cases as a basis for actor/system interactions
  - Write use cases to model behavioral aspects of functional requirements
  - Write scenarios to capture specific instances of use cases/events
  - Use scenarios to quality-check a variety of requirements models
  - Explain why business rules are the core of all functional requirements and learn how to document the rules
  - Explore data requirements in relationship details (cardinality, optionality) and attributes that support the behavioral models
  - Analyze and model an entity's states to discover or verify transitions and data requirements
- Describe how to use analysis models to uncover interface requirements
- Outline circumstances that would benefit from business modeling
- Demonstrate how analysis models interconnect and complement each other to provide a complete set of quality requirements

- Describe strategies for navigating the Requirements Roadmap
- Select roadmap models appropriate to the problem domain
- Calibrate analysis models' depth and documentation
- Identify requirements models useful for:
  - Acquiring or implementing a software package (e.g., COTS, commercial off-the-shelf software product)
  - Enhancing software
- Understand how to plan for incremental releases by grouping features and defining feature levels
- Name common requirements-related risks and ways to minimize those risks
- Describe several good practices to use while developing requirements that will help speed up the process without compromising quality

Seminar Outline

1. Introduction to Analysis Modeling

- Requirements quality characteristics
- Developing models by a question-and-answer process
- Requirements as models
- Model views

2. Requirements Scope

- Requirements models roadmap
- Product vision, project charter
- Features
- Stakeholders- Direct and indirect users
- Creating a Context Diagram
- Using an Event-Response Table
- Analyzing a Conceptual Data Model
- Business policies and free-form business rules

3. Requirements Modeling: The Complete Roadmap

- Actors and use cases
- Use case levels of detail
- Writing use case steps
- Beyond the basic flow: include, variation, exception
- Scenarios, stories and levels of detail
- Use case map and use case packages
- Use case heuristics
- Test cases from use cases
- Atomic business rules
- How to use business rule templates
- Decision tables and trees
- Creating a detailed logical data model
- Data dictionary
- Class model
- Modeling states and transitions on the state diagram
- Prototypes, dialog maps, and personas
- Business modeling: what, why, and when
- Relationship map
- Process map

4. Requirements Roadmap Summary, Requirements for COTS and Enhancements

- Multi models thread together
- Roadmap navigation strategies
- Requirements for COTS selection
- Requirements for enhancements
- Scheduling product releases
- Using analysis models to organize a requirements specification

5. Requirements Good Practices

- Common requirements risks
- Risk inoculation
- Requirements good practices summary

Appendices

Case Study and Sample Solutions
Use Case Template
Use Case Tips (guidelines, tips, heuristics, steps, and article)
Estimating Work with Use Cases
Business Rule Templates
Checklists, Questions, Forms, Templates
Business Change Document Template
Requirements Analyst Job Description
Modeling with the UML
References