

Course ID

WREQ

Course Duration

3 days

Course Title

Writing Requirements with Structured Use Case Descriptions

Related Courses

- Principles of Software Engineering (SWENG1, 2 days)
- Software Engineering: An Advanced Tutorial (SWENG2, 3 days)
- Software Project Management (SWPM, 2 days)
- Effective Software Testing (SWT, 2 days)
- Hands-On Technical Writing (TECHWRITE, 2 days)

Aimed At

Information Technology (IT) practitioners including analysts, testers, developers, managers, and quality assurance specialists, with current or near-future requirements engineering responsibilities.

Group Size

5-25

Prerequisites

None

Course in a Nutshell

Perhaps the single most significant factor that drives successful software projects – those that meet customer and user needs – is the availability of a complete, consistent, clear, correct, testable set of functional and non-functional requirements. Clearly, organizations that can produce coherent, complete, consistent functional and non-functional requirements properly enjoy a decided competitive advantage, and are most likely to enjoy substantial returns on their software engineering investments. This course is dedicated to the science and craft of requirements engineering.

Customize It!

- *Are you a member of an organization that produces real-time systems? We can create a version of the course that addresses requirements specifications for real-time systems.*
- *Similarly, if you have requirements management responsibility, we can orient the course toward the viewpoint of requirements management.*
- *Does your organization use agile methods? If so, we can customize the course to address requirements engineering in an agile development environment.*

Learn How To

- Understand the major sections of the system requirements specification: functional requirements; data dictionary; performance requirements; interface requirements; design constraints; and characteristics
- Examine the role of the context diagram as a starting point for requirements engineering and system testing
- Define the nature and role of the use case as a vehicle for expressing functional requirements, and as a basis for specifying non-functional requirements as well.

Course Outline

- Introduction to Requirements Documentation
 - Requirements process overview
 - Documentation standards
 - Audience
 - Functional and non-functional requirements
 - Use case concepts
 - Understanding the context diagram
- Components of a Functional Requirements Specification
 - Creating an information flow diagram for a business process
 - Flow diagram notation and examples
 - Elements of a use case description
 - Alternatives vs. extensions
- Main Success Scenarios
 - Writing an introductory narrative
 - Writing pre- and post-conditions
 - Writing the steps of the main success scenario
- Extensions, Alternatives, and Fragments
 - Writing the steps of extensions
 - Writing the steps of alternatives
 - Writing the steps of fragments
- Writing Data Specifications
 - Data elements in structured use case descriptions
 - Creating a data dictionary
 - Editing use case descriptions for data element consistency
 - Writing data structure specifications
- Non-functional Requirements
 - Writing performance requirements
 - Writing interface requirements
 - Writing design constraints
 - Writing system characteristics
- Inspecting Requirements Specifications
 - Inspection process
 - Benefits and costs
 - Participants
 - What to look for
- Wrap-up: Course Recap and Discussion
 - Lessons learned
 - Where to go from here



**How You Will
Learn**

- A seasoned instructor will present this course in interactive lecture format
- Along with lecture, we use exercises, extended workshops, and interesting group activities to enrich the instruction and drive home the essential points.
- You will receive a printed Participant Handbook to help you remember and retain what you learned in class and apply it on your job.

Revised

July 8, 2008f