Gathering, Documenting and Testing User Requirements (2 Days)

This is a basic course in understanding the process of gathering, defining, testing and managing user requirements. You will learn the requirements process from start to ongoing maintenance.

This course is ideal for people who are just learning about the importance of user requirements, or for those who need a defined process for requirements management.

This is a practical interactive seminar which uses team exercises to reinforce the process taught in the class. Your instructor will be a certified instructor in the software engineering field. You will learn the terminology, process, and challenges of requirements management in the real world. As a result of attending this seminar, you should have a good working knowledge of user requirements and what it takes to gather, design, test and manage a complete set of user requirements for a project.

Gathering, Documenting and Testing User Requirements will help you become more comfortable and confident in performing the requirements management process in just about any role on the project, including business analyst, user, system designer, project manager, QA analyst or tester.

You will emerge from this two-day session knowing how to define the right problem, talk to the right people, document the right needs, build the right system, and test the system using a defined baseline of requirements as the target. You will also leave with a knowledge of how tools can help you perform requirements management.

Return on Investment
- Learn how to define and solve the right problem and avoid spending tons of money building the wrong system.
- Learn how to find problems in requirements before they ripple through the rest of the project, where they are much more costly to fix.
- Understand the key issues in gathering and defining user requirements.
- Learn how to design tests that adequately cover requirements and business events.
- Get the most out of your existing investment in user requirements and use cases and how to leverage that investment.
- Advance your career by reinforcing your software engineering expertise.

Who Will Benefit
- Project managers
- Business analysts
- End-users
- System designers
- Software engineers and developers
- QA analysts
- Test analysts
- Testers

The program requires only basic IT knowledge or experience. Technical documentation knowledge or experience is not a pre-requisite.

Course Topics

Module 1 - Exploring Requirements

- What is Development?
- What is the Requirements Process?
- What Is A Requirement?
- What a Requirement Isn't
- What is Requirements Management?
- The Overall Objective
- Why We Aren't Very Good At Requirements
- Problems With Requirements
- Why Are Requirements Important?
- Where Defects Originate
- Where Testing Resources are Used
- The Relative Cost of Fixing Defects
- Case Study - Defining A Simple Requirement
- Assessing the Requirements Process in Your Organization
- Making Sense of Your Score

Module 2 - Problem Analysis

- Five Step Process
  - Step 1 - Define the Problem to be Solved
  - Step 2 - Understand the Root Causes
    - Root Cause Analysis
    - Fishbone Chart
    - How to Describe the Root Causes of a Problem
    - Context-free Questions
    - How Can Context-free Questions be Used?
    - The Sources of False Assumptions
  - Step 3 - Identify the Affected People
  - Step 4 - Define the Scope of the Solution
  - Step 5 - Identify Solution Constraints
    - Modeling Techniques
      - Business Modeling
      - UML
      - System Modeling
      - E-R Diagrams
      - Process Flows
      - Data Models

Module 3 - Techniques for Getting the User Perspective

- Getting the Right People
- Interview Techniques
- Defining Needs and Features
  - Guidelines on Scope and Abstraction
- Preparing for the Workshop
  - Marketing the meeting
  - Responsibilities of the Facilitator
  - Sample Agenda
  - Conducting the Session - Things to Pay Attention To
- Brainstorming Process

- Exercise - Brainstorming a Requirement Definition
- Storyboards
  - Tools for Storyboarding
  - Helpful Hints for Storyboarding
- Use Cases
  - Use Case Components
  - Use Case Model
  - Sample Use Case
- JAD Sessions
- Role Playing
  - How to Role Play
- Prototyping
  - Types of Prototypes
  - The Prototyping Cycle
- Dealing With Conflicts
- Exercise - Role Playing to Develop a Requirement Definition

Module 4 - Documenting Requirements

- IEEE/ANSI SRS Standard Document
- Major Topics that Should be Addressed in Requirements
- Desirable Attributes of Requirements
- Categories of Specification Statements
- Sizing of Requirements
- Testable requirements
- Readability of Requirements
- Common Problems with Requirements
- Techniques Used for Defining Requirements
- Defining the Problem to be Solved
  - Statement of Work
  - Constraints
  - Risk Analysis
  - Types of Prototypes
  - Use Cases
    - Use Case Components
    - Four Phases of Use Cases
    - Process for Writing Use Cases
  - Business Rule Catalog
    - Five Types of Business Rules
- Technical Methods for Defining Requirements
  - Decision Trees
  - Flowcharts
  - Entity-Relationship (E-R) Diagrams
  - Object-oriented models
  - Data Flow diagrams (DFDs)
  - Finite-state Machines
  - State-Transition Diagram
- Tools for Documenting Requirements
- Books that Discuss Modeling and Requirements

Module 5 - Requirements Management

- Scope Management
  - Managing Expectations - Understanding Tradeoffs
  - Tips for Managing Expectations
  - Nine Steps to Conflict Resolution
  - Refinement of Requirements
- Requirements vs. Design
- Change Control
  - Where Does Change Come From?
  - Three Ways to Deal With Change
  - How to Control Change
  - Change Control Process
  - Tools for Change Control and Requirements Management
- Case Study - Changing a Requirement

Module 6 - Testing Requirements

- Ten Quality Measures
- Verification Methods
- Ambiguity Walkthroughs and Reviews
- Technical Reviews
- Why perform early verification?
- Exercise - Perform an Ambiguity Review
- Developing Test Cases from Requirements
  - Requirements-Based Test Conditions
  - Adding Traceability
  - Tools for Test Case Design from Requirements
- Exercise - Define Test Cases from a Requirement

Module 7 - Dealing With Problems in the Requirements Process

- Scope Creep Solutions
- Excessive Change Solutions
- How to Get Cultural Acceptance of Requirements
- How to Start
- How to Start Earlier
- When to Stop