



Developing Requirements with Use Cases

BA105; 3 Days, Instructor-led

Course Description

Use this business analysis training course to master the power of use cases for developing requirements, improving software quality, and solidifying the link between requirements and other aspects of system development.

Course Objectives

- Advance the knowledge you already have about use cases and their value throughout the development life cycle
- Implement practical methods for understanding user requirements
- Practice state-of-the-art business and system modeling techniques
- Understand the connection between functional system scope and use cases
- Identify the correct use cases for a new or enhanced business system quickly and accurately
- Develop and document correct functional requirements
- Gain exposure to relationships among use cases, Agile methods, and user stories
- Overcome common use case traps and pitfalls
- Explore interdependencies among use cases, other types of requirements, design elements, and test cases
- Increase testing effectiveness through well-written use cases
- Leverage the power of use cases to enhance software quality with improved traceability
- Apply use cases in your real organizational environment
- Improve your requirements elicitation skills
- Produce high-quality, readable use case documentation that serves business and IT stakeholders
- Experience powerful ways to document requirements with use cases

Audience

If you're involved at all in defining and managing systems development projects, you should participate in this workshop. This course is perfect for you if you are a:

- Business customer, user or partner
- Business Analyst
- Business Systems Analyst

- Systems Analyst
- Systems Architect or Designer
- Systems or Application Developer
- Systems Tester
- Leader of Systems project or teams

Course Outline

Module 1: Review of Requirements Development with Use Cases

Use cases are one of the best approaches for developing requirements. In this section of the workshop, we will review key definitions and terms, overview a requirements management framework, and review how use cases fit into the development life cycle. We'll refresh your knowledge of how to find requirements from use cases, and we'll conclude with a discussion of use cases and Agile methods.

- Definitions of terms
- Levels and types of requirements
- Characteristics of effective requirements
- Requirements, use cases, and the development life cycle
- Review and assess use case quality
- Identify requirements associated with a use case
- Use cases and Agile methods

Practice Session

With your instructor, revisit key concepts of requirements engineering and then review poorly written requirements to discover characteristics of effective requirements. Work with your team to review and analyze several use cases and then extract possible requirements from those sample use cases.

IT Project Initiation and Use Cases

To exploit the full advantages of use cases, seasoned analysts plan for them from the very beginning of each project. This section explores project initiation and its relationship to use cases, particularly how to identify and capture them early in the project life cycle. In particular, you'll review whether use cases are appropriate for a specific project. You'll strengthen your understanding of the connection between project scope and use cases. We'll conclude this module with an exploration of other methods for identifying the use cases that comprise a system, and a chance for you to practice constructing a use case diagram.

- Project scope and stakeholders: how they relate to use cases
- Actor/goal definition and use cases
- Event identification
- User stories for agile development
- Use case briefs and usage narratives
- The use case diagram

Practice Session

Examine a hypothetical but realistic business and one of its emergent projects. You'll work in a small group to practice determining whether the use case approach is appropriate, identifying the use cases using the actor/goal identification method, and writing user stories and use case briefs for the case project. You will also practice diagramming the actors and the use cases.

Module 2: Documenting Requirements with Use Cases

At some point, we must document the use cases and requirements discovered during the requirements elicitation process. This section of the workshop focuses on how to apply the knowledge you already have to writing better use cases. It also examines more complex aspects of uses cases, including includes and extends relationships and use case linking on larger systems.

- The use case preamble: the big picture
- Describing the normal course (i.e., main success scenario)
- Identifying and describing extension scenarios
- Identifying includes (sub-function use cases) and extends relationships (extension use cases)
- Linking uses cases for larger or more complex systems

Practice Session

You'll work with your team to write a fully dressed use case for our case project, including a preamble, the main success scenario, and the extension scenarios. You'll also have a chance to write an included (or sub-function) use case and an extension use case.

Module 3: Improving Use Case Quality

As with most aspects of system development, the quality of downstream work products (design elements, test plans, etc.) depends directly upon the quality of the use cases. During this part of the workshop, we will apply standards for quality to our use cases and requirements and look at some proven ways to prevent common problems. We'll also explore how to derive maximum benefit from reviews throughout the life cycle.

- Characteristics of well-written use cases
- Recognizing common problems with use cases
- Avoiding use case traps and pitfalls: advice and examples
- Validating use cases through reviews and inspections

Practice Session

Your team will review another team's use case using a quality checklist. You'll then have the opportunity to refine your own team's use case based on feedback from another team.

Module 4: Use Cases and Other Requirements

Merely writing use cases is not sufficient for capturing all project requirements. While desired user functionality yields a major set of project requirements, experienced analysts know there are also nonfunctional aspects of the desired system that must be identified and captured. In this section, we will examine ways to derive other typical requirements from use cases and how to identify constraints on the solution design. In addition, we'll explore how use cases not only trace back to one or more business requirements, but also how they trace forward through the development life cycle to design and testing.

- Deriving non-functional requirements: business rules, data definitions, interfaces, and quality attributes
- Relating use cases to other requirements
- Identifying design constraints
- Documenting requirements and use case traceability

Practice Session

Your team will work together to derive and capture non-functional requirements from the use case your team has already refined. Then your instructor will work with the class to develop and document traceability between the requirements and the use cases for our course project.

Module 5: Use Cases and Testing

One of the most powerful aspects of the use case approach is its improvement in test procedure development. Well-written use cases directly impact the outcome of the very portion of the life cycle most likely to suffer when time is of the essence. Here, we'll look at how use cases can help identify test cases early in the life cycle. Next, we'll examine an example use case and its associated test plan side-by-side. Finally, we'll discuss how use of automated tools can reduce not only testing time, but also the time required to produce the test procedures.

- Benefits of early test case development
- Relating use cases to test cases
- Automated tools: reducing test procedure development time and testing time

Demonstration

Your instructor will demonstrate the use of a popular automated use case documentation tool and will then use it to develop a partial set of test procedures for our case project.

Module 6: Use Cases and Design Elements

Once we have the use cases developed, we can use them as a basis for discovering the elements needed for the design and development of the solution. In this section, we'll learn how to find typical design elements such as screens, messages, and dialog boxes, creating another layer of detail (sometimes called a "system use case").

- What are design elements?

- The relationship between a use case and design elements
- Functional decomposition for finding design elements
- Specifying design elements from a use case
- Validating requirements from user stories, use cases, and interface design

Practice Session

With your team, you'll analyze the use case you've already written to identify and specify required design elements. With your instructor, prototype an interface design for a use case from our case project and use it to validate the requirements.