visure

Requirements Lifecycle Management

Training Courses Catalogue

Services Area

2014

www.visuresolutions.com

Table of contents

1. Introduction 3
2. Courses on Requirements Definition and Management 5
   2.1. Requirements Definition and Management Methodology 5
   2.2. IREB Certified Professional for Requirements Engineering (CPRE) 9
   2.3. Requirements Elicitation Skills: a practical course 16
   2.4. How to write requirements 19
   2.5. Use cases in Requirements Engineering 22
   2.6. Mastering the requirements process 25
3. Training on Visure Requirements 31
   3.1. Visure Requirements Basics 31
   3.2. Visure Requirements Advanced 33
   3.3. Visure Requirements Proficiency 35
   3.4. Visure Report Manager 37
   3.5. Visure Requirements for System Administrators 39
   3.6. Visure Requirements Plugins Development 41

1.Introduction

Visure Solutions is a company focused on Requirements Definition and Management, and related disciplines. With the goal of helping our customers to improve their processes and reducing significantly start-up time in the adoption of these improvements, we have developed a set of training courses that we introduce in this catalogue.

All our courses in this catalogue can be run in our periodic open courses or in company. They can also serve as a basis to build customized training courses, tailored to meet the specific needs of our customers, taking into account their business objectives and existing or to be deployed processes. Visure Solutions also has a wide network of partners that allow us to cover all training needs in Requirements Management and in all related disciplines, providing a complete coverage of needs around software and systems development cycle.

The courses we offer are divided into the following categories:

Courses on Requirements Definition and Management:

One of the main problems in system building is to achieve a good communication between users and analysts: to ensure that the analyst understands properly business problems and needs, and to ensure that users understand how these needs will be solved by the solution proposed by the analyst.

In fact, this is the most frequent reason for project failure. If analysts do not understand user needs, they will deliver a system that is not useful. If users do not understand how the solution will behave, they will have unrealistic expectations, that will not be met by the delivered system.

The courses on Requirements Definition and Management provided by Visure offer attendants the possibility to become familiar with the different aspects of this discipline and learning the latest techniques for carrying out all activities related with requirements.

Among these courses, one of the most relevant is the official course for Professional Certification in Requirements Engineering (IREB) – Foundation Level. Visure is official Training Provider authorized by IREB and has been successfully giving this course since 2010.

Training on Visure Requirements:

In Visure we offer our customers an extensive experience in requirement process improvement and automation through the deployment of the Visure Requirements solution. This tool provides all functions needed for management and classification of requirements, together with the required flexibility to adapt itself to any requirement process deployed in an organization.

Visure offers a set of training courses covering all aspects involved in the use of Visure Requirements, from basic features such as to find information, to create and edit requirements, and create traceability, until the needed knowledge to be able to extend its functionality through plug-ins development.

In the following pages, we present a detailed description of each of our courses available in this catalogue.

2. Courses on Requirements Definition and Management

2.1. Requirements Definition and Management Methodology

Description

This course deals with all basic aspects related to Requirements Engineering: what requirements are, why they are important, their role in the various stages of a system life cycle, how to formulate, classify and manage them, and a description of all the activities of the requirement process that should be implemented in an organization.

The ever-increasing complexity of systems to be developed and the increasing awareness of the impact of the requirements on cost, quality and development time of projects require us to use every possible technique for the improvement of development processes. This need applies to both software and systems projects. In order to obtain the highest quality of products, customers demand higher quality development processes, often based on standards such as ISO, CMMI, etc.

This Requirements Engineering course offers a tool-independent approach focused on understanding the key role of requirements in the context of system development processes. The course uses an interactive format, encouraging students to examine their existing methods of developing requirements specifications and to investigate more effective approaches. The role of Requirements Engineering throughout the entire life cycle is examined, together with techniques to capture initial needs, the separation of actual requirements from what are not real requirements, the relationships between requirements and other project data, and techniques for efficient management of the requirements that allow keeping them updated and monitored throughout the system life cycle. The difference between User Requirements and System Requirements are listed, and also between Functional Requirements and Non Functional Requirements. The course covers methods for the logical organization of requirements.

The course analyzes the practices to be undertaken during the full development life cycle, from the point of view of the customer and the supplier. Students will learn to understand and manage iterative cycles and the impact of change in the requirements.

Audience

- Functional and business analysts
- Project managers

- Systems engineers
- Development engineers
- Quality managers (QA managers)
- Methodology managers
- Responsible for outsourcing

Agenda

- **Introduction: Why Requirements Engineering is required**
  As an introduction to the course, an overall view of course objectives and contents is given and the reasons why it is important to manage requirements throughout the system life cycle are explained, emphasizing the need to keep them updated in order to be able to properly define the system's acceptance conditions.

- **Requirements in the system life cycle**
  In this section, students analyze the role of requirements in each stage of a system's life cycle. The need to determine traceability between the outputs of each stage in the life cycle, from requirements to implementation, including the tests associated with each stage, is explained.

  Furthermore, the activities that make up the requirement process: elicitation, modeling, specification and validation, are described.

- **Requirements elicitation: tasks and techniques**
  In this section it is provided a detailed description of the activities involved in the first stage of the requirements process: requirements capture and identification, and the techniques used for such purpose, such as meetings, analysis of documentation, questionnaires, interviews, market studies, prototypes, etc. The importance of correctly identifying all stakeholders in the requirement process is emphasized.

- **Requirements modeling**
  The objectives of requirements modeling are analyzed and available modeling techniques are proposed, emphasizing their use in the context of the requirement process for defining the system scope. Insofar as software, the techniques used for requirements modeling are taken from Software Engineering methodologies (functional and object-oriented): context diagrams, dataflow diagrams, use cases, scenarios, state diagrams, sequence diagrams, etc.

- **Requirements specification**
  In this section students are taught how to formulate requirements and how to characterize them using attributes. Among such attributes we have priority and status, which define the

life cycle of requirements throughout the project. Classification of requirements as functional and non functional is also studied.

- **Requirements Management: traceability and change management**
  This section of the course describes the principles of requirements management, and stresses the need to manage versions and to maintain traceability among requirements and other project artifacts, especially regarding change management. The relationship between requirements and tests is also analyzed, together with the relevance of tests in system development.

Pre-requisites

Intermediate knowledge of software engineering and practical experience in Requirements Definition and Management .

Course Delivery Method

An interactive and highly practical format is used, encouraging student participation, so that they reflect on the theoretical concepts and learn to apply them effectively in their daily work.

Theory and practice alternate, combining theoretical concepts with a large number of practical exercises developed individually and in groups. The teacher will review the various solutions proposed by the students to identify errors and areas for improvement. Active audience participation is encouraged.

Objectives

- Understand the difference between user requirements and system requirements.
- Learn how to identify all stakeholders and other sources of requirements.
- Learn how to use diagrams in order to represent the system scope.
- Know available techniques for requirement elicitation.
- Learn how to apply the most common requirement elicitation techniques, such as interviews and prototypes.
- Understand the use of attributes to characterize and classify requirements.
- Understand the relevance of traceability and change management in requirements.

Schedule and time

The course will be conducted in 2 sessions of 6 hours each.

2.2. IREB Certified Professional for Requirements Engineering (CPRE)

Couse Objectives

The main goal of the course is to prepare candidates for the IREB International Certification. Additionally, once the course has been completed, participants will have gained extensive knowledge of Requirements Engineering and the role of this discipline in the life-cycle of a project, regardless of the industry.

Holders of this certificate will be able to confidently apply the most appropriate requirements engineering processes and techniques to given situations. They will also be to justify their choice.

The following are the priorities of this certification level:

- Acquire practical knowledge necessary for success in the area of Requirements Engineering through exercises which are especially designed to show the most common problems this discipline involves.
- Demonstrate an approach to requirements engineering that is independent of any specific methodology or market sector.
- Demonstrate an approach to requirements engineering that is independent of any specific methodology or market sector.
- Show established and proven methods, techniques and practices in Requirements Engineering.

CPRE Overview

Since its inception, the CPRE Foundation Level certification has evolved to become the most achieved certificate in Requirements Engineering worldwide. Over 14,500 people have been certified worldwide in more than 45 countries.

In 2006, the International Requirements Engineering Board (IREB) was founded by renowned Requirements Engineering representatives from business, consulting, education, research and science. The intention of IREB to improve the knowledge in Requirements Engineering and its application and to create an international accepted basis for communication in this field.

Requirements Definition and Management has become a major success factor of projects and must be conducted in a complex technical and business environment.

The goal of Requirements Engineering is not only documenting the requirements, but also acquiring knowledge in the areas of data collection, well-structured specifications, traceability, review and change management. All of these aspects are covered in the course.

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The Foundation Level focuses on the advanced beginner and, together with the Advanced Level modules and the planned Expert Level, it offers a comprehensive career path for Requirements Engineers and Business Analysts. Professionals can start their qualification by achieving a CPRE Foundation Level certificate and then progressing to the CPRE Advanced Level or the BCS Diploma in Business Analysis.

Visure Solutions is an official Training Provider of the International Requirements Engineering Board and is authorised by them to provide Foundation and Advanced Level training Worldwide.

The Visure Solutions training courses for the CPRE have been developed in conjunction with Capiro - The Requirements Consultancy Specialists.

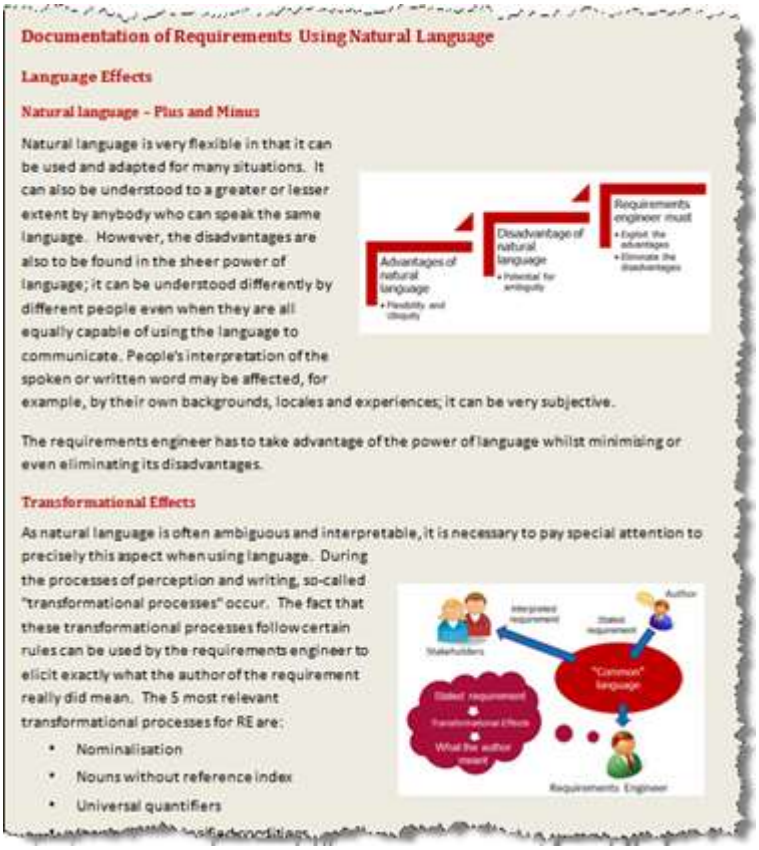
CPRE Foundation Level

The content of the Foundation Level course is based on the official syllabus for the “Certified Professional for Requirements Engineering, Foundation Level” International Certification. The focus is on the acquisition of sound, practical knowledge of Requirements Engineering concepts and methods. Participants will learn good practices that are applicable to any field. There is a strong emphasis on applying, by means of practical exercises, thoroughly tested methods for the development, documentation and validation of requirements.

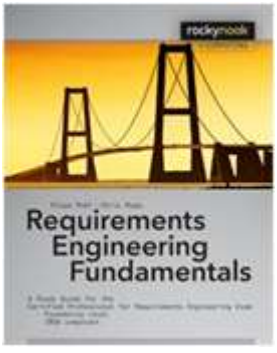
Target audience

- Analysts and consultants.
- Project managers, Quality Managers, Test Managers.
- All those interested in obtaining the IREB Professional Requirements Engineering Certification.
- All those interested in obtaining the BCS Business Analysis Diploma and seek an alternative to the BCS Requirements module. Requirements Engineering is a mandatory core course module within the BCS International Diploma in Business Analysis. In recognition of the status of IREB's syllabus, candidates that have completed the IREB’s CPRE Foundation Level are exempt from taking the BCS Certificate in Requirements Engineering to achieve their Diploma.
- By completing this course in conjunction with other International Software Testing Qualifications Board (ISTQB) courses and work experience, testers are able to certify their skills globally with the Quality Assurance Management Professional (QAMP) Certification.

Course material



Sample from course workbook



We also provide a copy of the official reference book for the certification - "Requirements Engineering Fundamentals" by Pohl and Rupp

Each attendee receives:

- A comprehensive course workbook containing detailed notes and explanations of the instructor's slides.
- Examination style multi-choice questions.
- A case study that runs throughout the course, containing a scenario, questions and model answers.

Syllabus

The CPRE Foundation Level syllabus covers the most important topics of Requirements Engineering:

Introduction and Foundations: Many of the problems in the software development cycle have their origin in requirements engineering. This section highlights the important role of requirements engineering in software and systems development. It offers definitions for the most important terms in requirements engineering and provides fundamentals of communication theory and requirements types.

System and System Context: How to define the scope of the proposed system by clearly separating the relevant from the irrelevant aspects of the environment.

Requirements Elicitation: How to identify stakeholders and how to manage them. Introduction to different types of elicitation techniques and how and in which context they should be used.

Requirements Documentation: Importance of requirements documentation, basic rules, structure and quality criteria for requirements documents. Introduction to different types of requirements documents and importance of a glossary.

Documentation of Requirements Using Natural Language: Effects of natural language and how to use templates to avoid the problems commonly associated with using prose to document requirements.

Model-based Documentation of Requirements: Documenting requirements with models; different types of models and how and when to use them.

Requirements Validation and Negotiation: How to ensure that the documented requirements meet the predetermined quality criteria such as correctness and agreement. Identifying conflicts between stakeholders and resolving them.

Requirements Management: Assigning attributes to requirements, defining views on requirements, prioritizing requirements, and tracing requirements as well as versioning requirements and managing requirement changes. These techniques are applicable to individual requirements as well as complete requirements documents.

Tool Support: Tools are often used to support the requirements process. Discussion of different types of tools and how to evaluate and introduce them.

Certification

The examination for the Foundation Level certificate can either be taken at the end of the training class, or if further study time is required, at a later date. There is also the option of taking the examination online at a certification centre. The cost for the examination is in addition to the course fees.

The examination comprises 45 multiple choice questions to be answered in 75 minutes. The questions are of varying levels of difficulty and therefore assigned differing amounts of points. The candidate must achieve at least 60% of the total score possible to be awarded the certificate.

Contrary to other certification schemes, exams are neither conducted by the holder of the certification scheme itself (IREB) nor by the employees of a training provider. Exams are conducted by independent certification bodies as personally and organizationally independent organizations. This model ensures fairness and neutrality of the examinations and avoids conflicts of interests.

Course duration

24 Hours typically spread over three days, plus some additional exercises to be completed as homework.

There is a regular schedule of public courses available. Onsite courses can also be run on request at a corporate facility and even tailored to your requirements.

CPRE Advanced Level

The modular concept of the CPRE Advanced Level addresses the fact that not every subdomain of requirements engineering is relevant for every specialized profession. Specialization and practicality are the hallmarks of the Advanced Level modules, combined within a sound general framework.

A single AL module focuses on a specific aspect, a technique, a task, a domain or a process.

The holder of a CPRE AL certificate

The holder of a CPRE AL certificate

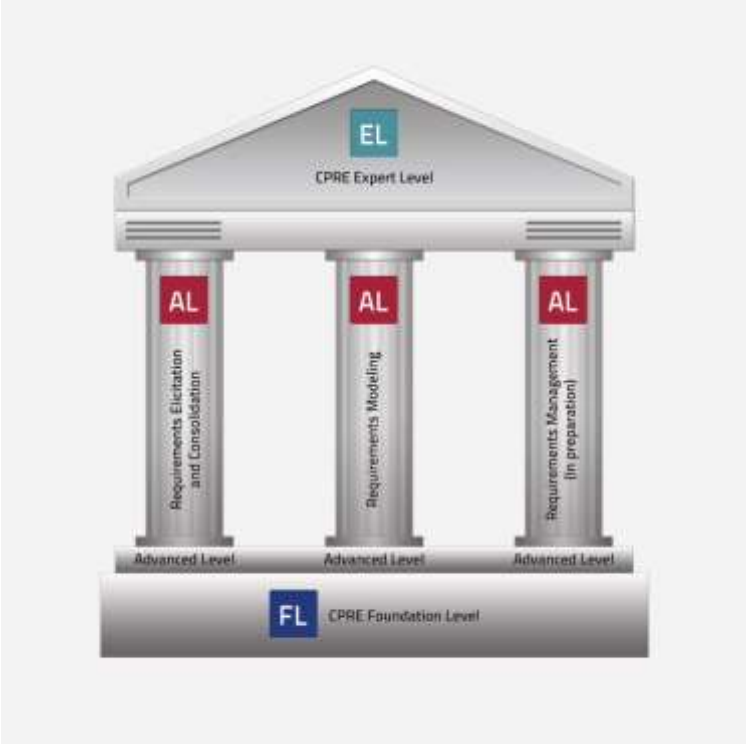
- is familiar with the specific terminology within the field covered by the Advanced Level module
- is mastering the specific techniques and methods of the partial discipline of Requirements Engineering covered by the Advanced Level module

- possesses sound knowledge within the partial discipline of Requirements Engineering covered by the Advanced Level module and has proven that in a practical examination

Currently two modules are published.

- **Requirements Elicitation & Consolidation**: Different sources of requirements are discussed along with many elicitation techniques such as questioning, observation, creativity and artefact-based. Conflict resolution is supported by a variety of consolidation techniques and clear guidelines as to which situation to use which technique.
- **Requirements Modelling**: How to use models for requirements elicitation and documentation. The main focus is on modelling of information structures, functions, behaviour and scenarios in Requirements Engineering.

Certification for the Advanced Level modules consists of a multi-choice question examination and a written assignment. The written assignment must be completed within 12 months of passing the examination and consists of a written study on a predefined group of topics. The context of the written assignment can be freely chosen by the candidate and must represent a realistic project situation from their working environment.



The structure of the CPRE certification scheme

Future Advanced Level modules include Requirements Management and Product Management.

For more information:

http://www.visuresolutions.com/ireb-certification

http://www.ireb.org/

2.3. Requirements Elicitation Skills: a practical course

Introduction

According to Standish Group's Chaos Report, 68% of ICT projects end up as failures, the main reason being the poor quality of requirements.

Obtaining quality requirements depends mostly on the effective communication and cooperation between user and analyst, and on the analyst's skill in reducing the effects of ambiguity, vagueness and subjectivity that pervade the initial definition of the problem to be solved.

Course Objectives

To teach attendees the use of elicitation techniques and the interpersonal skills necessary to enable them to obtain optimal quality requirements.

Course Delivery Method

The course has a hands-on, practical focus, encouraging participants to use and experiment with the material (learn-by-doing), backed by the necessary theoretical principles and procedures. Specifically, it will focus on:

- Developing applicable skills through self-reflection, exercises and debriefings.
- Practicing pertinent behavior and best practices in real time, through simulations and role plays.

The questionnaires and debriefings encourage students to internalize the learning goals and discover opportunities to use their new skills in their work.

During the course, a set of role plays is interleaved with the flow of the course, designed to emulate a complete cycle of interviews and meetings, going from the initial meeting with the sponsor until the last validation meeting with the customer.

Participants are encouraged to suggest real cases, from their actual work life, to be simulated in ad-hoc role plays, since this can be helpful to further reinforce a learning point.

At the end of the course, as an additional take-away, each participant will write out their own Personal Action plan, based on the notes, feedback and debriefings received during the course, and with the help of the instructor. This Personal Action Plan serves as a further reinforcement for their newly acquired skills.

Pre-requisites

None.

Schedule

The course will be conducted in 2 sessions of 8 hours each.

Target

- Project managers
- System analysts
- Business analysts
- Non-specialists assigned to ICT projects (permanently or occasionally)
- Development engineers

Highly recommended for

- Experienced project managers who want to coach members of their teams.
- Recently qualified PMP, PMI project managers who wish to acquire practical experience quickly.
- Evaluation of candidates for project manager or requirements analyst.

Benefits

Participants will acquire new skills and working habits, including:

- Customer orientation
- Goal alignment
- Long-term relationships
- Influence and credibility
- Team work
- Skills in questioning

Contents

- **Introduction**
  - Review of common concepts and acronyms
  - Introduction to the course's organization

- **Requirements: the weak link in projects**
  - Current state of the situation and actual problems of participants
- **Competencies - professional stages**
  - The 4 stages in professional development and their corresponding competencies
  - The analyst: stage and competencies
- **Relationship model and roadmap**
  - Description of a relationship-oriented model to “team work”
  - Guidelines to create the model from the current situation
  - How to address the status quo
- **The Interview**
  - The interview technique
  - How to identify the stakeholders
  - Sequencing the interviews
- **Elicitation**
  - What is elicitation and its application in the process
  - Framing and reframing for elicitation
  - Questioning techniques
  - Questions for managers
  - Questions to remove ambiguity
  - Questions to surface underlying problems
- **Prioritization and Validation**
  - Why it is essential to prioritize requirements
  - Dealing with user resistance to prioritize
  - Internal validation of elicited requirements
- **Presenting results**
  - General meeting
- **Personal Action Plan for participants**

2.4. How to write requirements

Description

Most requirements are specified in natural language. Since domain experts, analysts, developers, users, etc. know how to read and write, it is taken for granted that they also inherently know how to formulate requirements. This is not necessarily true, because in order to correctly specifcy a requirement, a series of conditions must be fulfilled.

During a conversation in natural language, the participants reach a certain level of common understanding of the subject being treated. Misunderstandings often arise but, in most cases, they do not have significant negative consequences. However, in the requirements specification, the consequences of misunderstandings are often severe and sometimes very serious: delays, cost overruns , etc.

This course explains techniques and rules for proper use of natural language in the fomulation of requirements, which is the usual way to express requirements to facilitate understanding between analysts and end users. It focuses on best practices for understanding and writing requirements, and the characteristics required of a good requirement specification. The final part includes the use of a tool that automates checking rules when drafting requirements: Visure Requirements Quality Analyzer© , which analyzes the quality of requirements specifications and offers recommendations to enhance the wording.

Audience

- Functional and business analysts
- Project managers
- Systems engineers
- Development engineers
- Quality managers (QA managers)
- Methodology managers
- Responsible for outsourcing

Agenda

- **Course Introduction**
  This is a brief introduction of the course, its focus and contents.
- **Requirements specification methods**

Different requirement specification methods are identified, with emphasis on natural language as the most widely used vehicle in most environments. Students analyse the difficulties caused by the use of natural language in requirements specification: natural language's inherent ambiguity makes it fairly unreliable and a comon source of misunderstandings.

- **Requirements validation criteria**
  This section describes the characteristics that each requirement should have in order to be considered as properly specified (conciseness, clarity of meaning, completeness, unique identification, etc.). Each characteristic is studied in detail and rules that will help put it into practice are proposed, together with examples designed to facilitate students' understanding of the application of such rules.

- **Criteria for the validation of requirement sets**
  This section describes the characteristics that the set of requirements should have in order to be considered correct (completeness, consistency, etc.). Recommendations are given on how to verify the practical fulfillment of each of these characteristics.

- **Requirements validation with Visure Requirements Quality Analyzer**
  In this section of the course it is briefly shown an example of automated application of the rules analyzed in earlier sections using the Visure Requirements Quality Analyzer tool that uses natural language processing techniques in order to detect non fulfillment of requirement validation rules and to propose improvements to be applied for fulfillment.

Pre-requisites

None.

Course Delivery Method

An interactive and highly practical format is used, encouraging student participation, so that they reflect on the theoretical concepts and learn to apply them effectively in their daily work.

Theory and practice alternate, combining theoretical concepts with a large number of practical exercises developed individually and in groups. The teacher will review the various solutions proposed by the students to identify errors and areas for improvement. Active audience participation is encouraged.

Objectives

- Understand the advantages and disadvantages of each requirement specification method.
- Understand and apply rules for writing requirements.
- Understand and apply criteria for validation of a requirement specification.
- Know how automated tools for requirement validation work.

Schedule and time

The course will be delivered in 1 session, 6 hours total duration.

2.5. Use cases in Requirements Engineering

Description

This course examines the role of the use case technique in Requirements Engineering. The basics of the technique are explained: use cases, actors, use case diagrams. These concepts are put into the context of the requirements process and it is described how they can be used to improve communication between analysts and users.

The use case technique was developed in the 1980s in the context of Software Engineering . The use case diagram is one of the diagrams in UML and SysML , the UML extension for system modeling. It is versatile and easy to interpret, making it increasingly used not only in the context of software modeling, but in systems engineering in general, to represent the functionality of a system and its relations with the outside world .

Moreover, the description of use cases is a technique to describe functional requirements. Although there is no established standard for writing the content of use cases, yet there is a set of recommendations and best practices to ensure that the application of the technique is effective and meets the objective of facilitating communication between participants in the requirements process.

Audience

- Functional and Business Analysts
- Project Managers
- Systems engineers
- Development engineers
- Quality Managers (QA Managers)
- Methodology Managers

Agenda

- **Introduction: what are use cases?**
  As an introduction to the course, a general view of its objectives and contents is presented. Definitions of the basic concepts in the use case technique are introduced. It is explained how use cases are put into the context of requirement processes and the possibilities they offer. Lastly, advantages and drawbacks of this technique in this context are presented.

- **Use case diagrams and system scope**

In this section it is defined what we mean by system scope and its importance in the context of Requirements Engineering. The concept “actor” is analyzed in relation with other related concepts such as user or stakeholder. Characteristics and graphical notation of use case diagrams are described and, lastly, how this diagram can be used as a graphical representation of the system scope.

- **How to write use cases: first steps**
  In this section, guidelines to identify the correct use cases are presented. General characteristics that should be included in the description of use cases are enumerated.

- **How to write complete and correct use cases: scenarios**
  The use of scenarios as detailed description of use cases is analyzed. It is explained which are the characteristics they must have in order to be correct and complete.

Pre-requisites

None.

Course Delivery Method

An interactive and highly practical format is used, encouraging student participation, so that they reflect on the theoretical concepts and learn to apply them effectively in their daily work.

Theory and practice alternate, combining theoretical concepts with a large number of practical exercises developed individually and in groups. The teacher will review the various solutions proposed by the students to identify errors and areas for improvement. Active audience participation is encouraged.

Objectives

- Identify actors and use cases in a given system.
- Represent them in a use case diagram.
- Understand relations and differences between actors, users and stakeholders.
- Apply use case diagram to represent system scope.
- Apply use cases as a description of business and system functional requirements.
- Apply the scenarios technique to describe use cases.

Schedule and time

The course will be conducted in 1 session of 6 hours.

2.6. Mastering the requirements process

This is the Volere flagship course. In three days it delivers a bombproof way of gathering and verifying testable requirements by giving you:

- A process for gathering the correct requirements.
- Methods of eliciting the right requirements from your users.
- Ways of knowing when your solution precisely matches what the user needs.
- The ability to write a compete and unambiguous requirements specification.

Description

Software can solve almost any problem. The problem is that we don't always understand what the problem is. Understanding the problem—the real problem—is the role of the requirements process.

This workshop presents a complete process for uncovering the real requirements, testing them for correctness, and recording them clearly, comprehensibly and unambiguously. This requirements process starts with the business—for it is only within the business that you can discover the real needs. When you know the real needs, it is possible to determine the system that best serves those needs, and to specify, completely and innovatively, the requirements to get the right system built.

Requirements are the most misunderstood part of systems development, and yet the most crucial. Requirements must be correct if the rest of the development effort is to succeed.

Software development today has more demands on it than ever; and fewer resources to meet those demands. Getting the software right—the first time—is the most effective way to succeed under these circumstances. Today's requirements process is incremental with quick cycle times. It uses prototypes and scenarios, and it ensures that your developers know precisely what you—and your customer—mean when you write a fit criterion – a concise test case for the requirement.

This workshop shows you how to precisely define the scope of the business problem, to discover and involve the appropriate stakeholders, to use techniques such as apprenticing and use case workshops to learn what the business really needs, to write testable requirements, unambiguously so the right system gets built.

Course endorsed by the IIBA

This course is endorsed by the International Institute of Business Analysis (IIBA™). It provides material and skills relevant to the Business Analysis Body of Knowledge (BABOK™) version 2.0.

Audience

- Business Analysts
- System Analysts
- Requirement Engineers
- Requirement Administrators
- Product Managers
- Program Managers
- Project Managers
- Consultants

Additionally, this course is quite suitable for business users and customers who are normally stakeholders in any requirements project.

Contents

- **Project Blastoff**

  This builds a foundation for the requirements project by establishing its Scope-Stakeholder-Goals. This gives you the precise scope of the business area to be studied; a testable goal for the project; and using stakeholder maps, you can identify all the sources of requirements. Additionally, the blastoff ensures the project is viable and worthwhile.

- **Trawling for Requirements**

  At the core of any requirements process is the ability to get people to tell you what they really need, rather than their perceived solution, or what they think you might be able to deliver. We show you how to use apprenticing, use case workshops, interviewing, brainstorming, and other techniques to discover exactly what the customers need—and want.

  This section introduces the brown cow model that gives the business analyst different ways of thinking about the problem, and allows the real problem to be solved to emerge. We also look at innovation—fresh thinking about the problem—and how it is a necessary component of any requirements process.

- **Functional Requirements**

  Functional requirements are those things the product must do. You discover them by understanding the real work of the organisation, and determining what part of that work the automated product can best do. The automated product is specified using well-formed requirements. We also show you how to use agile story cards as a way to capture the needed functionality.

- **Non-functional Requirements**

  Non-functional requirements are properties the product must have, such as the desired look and feel, usability, performance, cultural aspects and so on. This section demonstrates the importance of correct non-functional requirements, and discusses the various types. It shows you how to use the template, and other methods, to find the all-important qualitative requirements for your product.

- **Prototypes and Deviations**

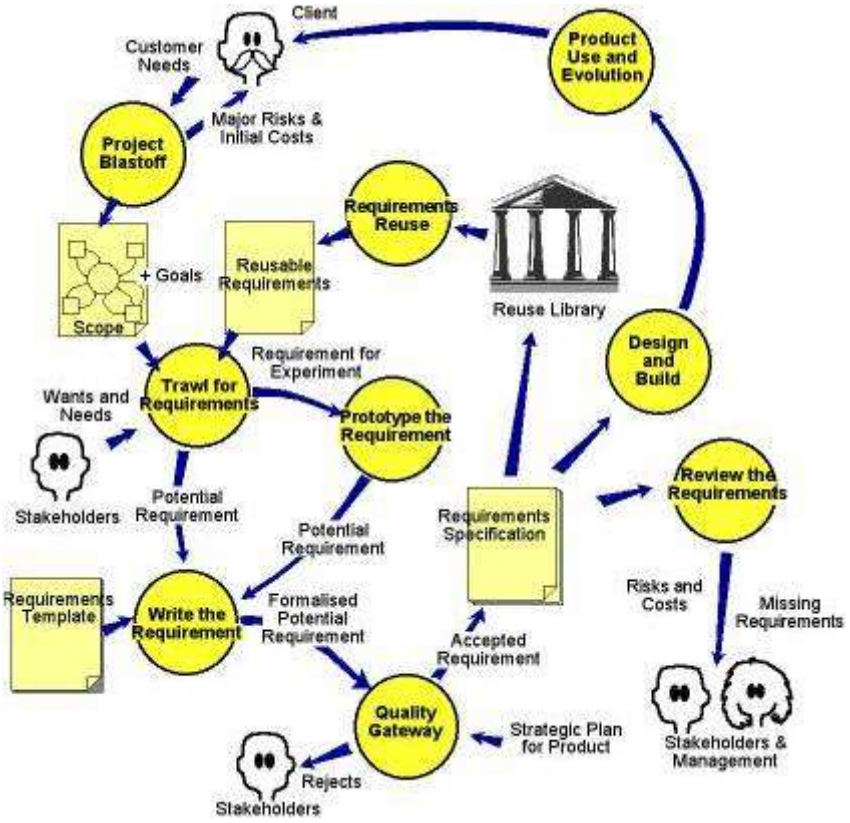
  Prototyping is a way of discovering requirements by testing mock-up products for the user's work. Here we look at the merits of both low and high-fidelity prototypes, and how they and scenarios are used to discover previously-hidden requirements. We also look at the wanted alternatives, unwanted exceptions and potential misuses of the product.

- **Writing Requirements**

  This section addresses the need to communicate requirements—how to formulate them and how to include an unambiguous fit criterion. This makes the requirement testable, as well as ensuring the implemented solution precisely matches the client's expectations.

- **The Quality Gateway**

  Testing is most effective when it is done early in the development cycle. Here we demonstrate how to test requirements before they become part of the requirements specification. The Quality Gateway rejects out-of-scope, gold-plated, non-viable, incorrect and incomplete requirements.



- **Managing Your Requirements**

  Managing requirements varies with the kind of development method you plan to use.. We look at strategies for your requirements project from the waterfall process through to agile techniques. The use of the requirements knowledge model is discussed, along with how to prioritise requirements, and how to resolve conflicting requirements. We take a quick look at tools to help manage requirements.

- **Your Requirements Process**

  You discuss and determine how to make your own requirements process as effective and efficient as possible. This involves incorporating your own organisational processes into the requirements activity. You build a model of how you will use what you have learned when your return to your own workplace.

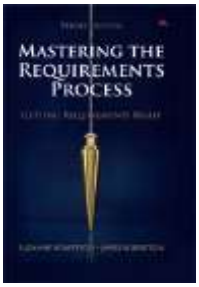
Workshops

We want you to use this right away. Each of the teaching chapters is reinforced with a workshop where you apply the concepts presented in the seminar. Participants work in teams to discover, specify and evaluate requirements for a significant system by:

- Defining the project's scope, its goals and the relevant stakeholders
- Identifying business use cases and product use cases
- Prototyping the product to find hidden requirements
- Applying the requirements specification template
- Defining functional and non-functional requirements
- Deriving the fit criterion, or measurement, for the requirements

Material

Each student will get a copy of the course manual in English. The course fee includes a copy for each student of the book *Mastering the Requirements Process- Third Edition: Getting Requirements Right*.



Additionally, each student will get a copy of the Volere Requirements Specification Template with advice on how to make this your own template.

Course teachers

This course was written by James Robertson and Suzanne Robertson, creators of the Volere requirements techniques.

Suzanne Robertson is co-author of Mastering the Requirements Process, Third Edition: Getting Requirements Right (Addison-Wesley 2012) a book that provides guidance on finding requirements and writing them so that all the stakeholders can understand them. Her other requirements book, Requirements-Led Project Management (Addison-Wesley 2005) addresses how to use requirements as input to planning and management. She is also co-author of the Volere approach to requirements engineering.

She has more than 30 years experience in systems specification and building. Her courses on requirements, systems analysis, design and problem solving are well known for their innovative workshops and practical applicability. Current work includes research and consulting on finding and involving the right stakeholders, the building of requirements knowledge models and running audits for assessing requirements specifications. She is a principal and founder of The Atlantic Systems Guild and is founding editor of the Requirements column in IEEE Software magazine.

James Robertson is a consultant, teacher, author, project leader whose area of concern is the requirements for products, and the contribution that good requirements make to successful projects. James is a leading proponent of the principle of introducing creativity into the requirements process. His controversial article "Eureka: Why Analysts Should Invent Requirements" in IEEE Software has provoked heated discussion and has been widely quoted. Before becoming a systems engineer, James trained as an architect and his experience in that profession provides inspiration for his work on innovation and creativity. He is co-author of Mastering the Requirements Process, Third Edition (Addison-Wesley 2012), Requirements-Led Project Management (Addison-Wesley 2005), the Volere approach to requirements engineering, and Complete Systems Analysis: the Workbook, the Textbook, the Answers (Dorset House, 1994), a two-volume text and case study that teaches the craft of systems analysis.

Schedule

The course will occupy 3 days and will be run as per the following timetable:

Days 1 and 2: 9:00 to 17:00

Day 3: 9:00 to 16:00

The timetable includes each day a 1-hour break for lunch.

3. Training on Visure Requirements

3.1. Visure Requirements Basics

Description

This is an introductory course to Visure Requirements, aimed at all Visure Requirements users; covers the basic functionality of the tool needed for most of the tasks to be done with it.

Hands-on course, which enables a user to navigate through the tool, create and edit requirements , create traceability , and basic understanding of change control and analysis.

Audience

All Visure Requirements users.

Agenda

- Introduction.
- Creating requirements.
- Editing requirements.
- Customizing the interface.
- Importing requirements.
- Creating traceability.
- Publishing documents.
- Browsing baselines.
- Basic change management.

Pre-requisites

There are no pre-requisites for this course.

Course delivery method

The course has a practical approach. Each core functional area of the tool is described, followed by exercises using the tool to ensure proper understanding of the concepts covered.

Each student shall be able to test the concepts through direct access to the tool. During the practical exercises, an example database will be used; the data contained inside the database represents a generic project.

Objectives

- Navigate through the tool.
- Create items.
- Edit items.
- Create traceability.
- Data analysis.
- Publish data as documents.

Schedule and time

The course will be conducted in 1 session of 8 hours.

3.2. Visure Requirements Advanced

Description

This course includes the Visure Requirements Basic course and it adds more advanced capabilities, necessary for users who need to access functionality of the tools broader concepts, such as updates and modification of the project template to meet the specific needs of a new project or advanced functionality for creating, editing and analyzing requirements from different perspectives.

This course enables users and project managers, group leaders or small user groups, to have all the concepts needed to use Visure Requirements within the full life cycle of a project.

Audience

Business analysts, Systems engineers, Software engineers, Requirements engineers, Methods and tools team, Quality managers, Responsible for tool, Quality managers and Project managers.

Agenda

Visure Requirements Basics course content, plus the following:

- Partitions, user groups and permissions.
- Modifying and creating blocks and block diagrams.
- Modifying and creating attributes and workflows.
- Reusability.
- Management Console: Settings, Users and Groups and Baselines.

Pre-requisites

There are no pre-requisites for this course.

Course delivery method

The course has a practical approach. Each core functional area of the tool is described, followed by exercises using the tool to ensure proper understanding of the concepts covered. Each student shall be able to test the concepts through direct access to the tool. During the

practical exercises, an example database will be used; the data contained inside the database represents a generic project.

Objectives

- Create and edit items.
- Create traceability.
- Import data.
- Publishing data.
- Perform analysis of data.
- Setup a project.
- Understand reusability mechanisms.
- Manage and use baselines.

Schedule and time

The course will be conducted in 2 sessions of 8 hours.

3.3. Visure Requirements Proficiency

Description

This course includes Visure Requirements Basic and Visure Requirements Advanced courses, and on them, complete concepts to cover all the functionality available to the user of the tool. The course covers every functional aspect of the tool, from the basic functionality to the functionality needed to setup a project.

The goal is to provide attendees with all necessary knowledge to actively participate in the configuration of the tool to their specific corporate processes, and thus, make them self-sufficient to maintain and improve the tool deployment.

Audience

Business analysts, Systems engineers, Software engineers, Requirements engineers, Requirements managers, Methodology and tools team, Quality managers.

Agenda

Visure Requirements Basics and Visure Requirements Advanced contents plus the following:

- Projects in Visure Requirements.
- Permissions: partitions and user groups.
- Requirements processes configuration in Visure Requirements.
- Modifying and creating attributes and workflows.
- Reusability.
- Management console (suspect links, codes configuration).
- Create and share views.

Pre-requisites

There are no prerequisites for this course.

Course delivery method

The course has a practical approach. Each core functional area of the tool is described, followed by exercises using the tool to ensure proper understanding of the concepts covered.

Each student shall be able to test the concepts through direct access to the tool. During the practical exercises, an example database will be used; the data contained inside the database represents a generic project.

Objectives

- Create and edit items.
- Create traceability.
- Import data.
- Publishing data.
- Perform analysis of data.
- Setup a project.
- Setup access rights policy.
- Setup the project data model.
- Understand re-utilization mechanisms.
- Baselines management and usage.
- Views policy setup.
- Management console advanced topics.

Schedule and time

The course will be conducted in 3 sessions of 8 hours.

3.4. Visure Report Manager

Description

Especially designed for projects with specific publishing and/or reporting needs, this course will train users on how to design and create corporate and user reports, from simple to advanced reports, containing images, tables and other elements.

Audience

Methods and tools team, Quality assurance team and Tool administrators.

Agenda

- Visure Report Manager concepts introduction.
- Visure Report Manager designer concepts introduction.
- Creating a basic report.
- Creating an advanced report.
- Entering scripts in a report.
- Graphics.
- Tables.
- Forms.

Pre-requisites

Visure Requirements Basics course.

Course delivery method

The course has a practical approach. Each core functional area of the tool is described, followed by exercises using the tool to ensure proper understanding of the concepts covered. Each student shall be able to test the concepts through direct access to the tool. During the practical exercises, an example database will be used; the data contained inside the database represents a generic project.

Objectives

- Understand Visure Report Manager workflow.
- Understand Visure Report Manager Designer workflow.
- Enable the user on Advanced report creation.
- Understand the role of scripting inside reports.
- Understand how to incorporate Graphics, Tables and Forms inside a report.

Schedule and time

The course will be conducted in 2 session of 8 hours.

3.5. Visure Requirements for System Administrators

Description

This course is aimed at the tool administrator, responsible for the installation and maintenance of Visure Requirements. Architecture, installation, system level configuration, virtualization, and best practices are covered.

Through this course, the attendee acquires the knowledge to install and maintain the tool.

Audience

System administrators, Database administrators and Tool administrators.

Agenda

- Creating the database.
- Installing Visure Requirements workstations.
- Installing Visure Report Manager.
- Configuring the data sources.
- Synchronization with LDAP.
- Virtualization (Citrix, Remote Desktop).
- Installing plugins and integrations.

Pre-requisites

There are no prerequisites for this course.

Course delivery method

The course has a practical approach. Each core functional area of the tool is described, followed by exercises using the tool to ensure proper understanding of the concepts covered. Each student shall be able to test the concepts through direct access to the tool. During the practical exercises, an example database will be used; the data contained inside the database represents a generic project.

Objectives

- Acquire knowledge on tool installation.
- Acquire knowledge on tool administration.
- Acquire knowledge on supported virtualization modes.

Schedule and time

The course will be conducted in 1 session of 8 hours.

3.6. Visure Requirements Plugins Development

Description

Visure Requirements can be extended through plugins; these can help automate repetitive processes, enable new functionality, or extended or modify existing functionality, like custom integrations. This course is an introduction to Visure Requirements plugin development, and provides the attendees with the necessary knowledge to create their own plugins.

Audience

Systems administrators, Tool administrators, Visure Requirements advanced users.

Agenda

- Visure Requirements plugins introduction.
- Configuring the IDE for plugin creation.
- Debugging a plugin.
- Introduction to Visure Requirements data model.
- Accessing data from a plugin.
- Adding UI elements. (Columns, Toolbars, Tabs and Dialogs).
- Visure Requirements integrations framework.

Pre-requisites

You must have programming knowledge of C++.

Course delivery method

The course has a practical approach. Each core functional area of the tool is described, followed by exercises using the tool to ensure proper understanding of the concepts covered. Each student shall be able to test the concepts through direct access to the tool. During the practical exercises, an example database will be used; the data contained inside the database represents a generic project.

Objectives

- Provide the attendee with an overview of the most used API sections.
- Provide the attendee with the necessary knowledge to create first plugins.
- Provide the attendee with a training material that can be used as an example catalog.

Schedule and time

The course will be conducted in 2 session of 8 hours.