The Teaching and Exam-Oriented Perspective of the tekom Competence Framework

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1. Introduction

The market is changing, and the knowledge of technical communicators adapts to it. New things come along; other things must be newly evaluated. tekom orients itself to these changes, and this is reflected in the Competence Framework.

a) Objectives of the tekom Competence Framework

1. The Competence Framework describes the knowledge and practical abilities the job market expects from persons active in the area of technical communication.
2. The Competence Framework defines competences that can be demanded in connection with activity in the area of technical communication or closely related areas of work.
3. The Competence Framework describes the occupational profile of technical communicators on the competence level.
4. The mandatory modules describe the core knowledge in the area of technical communication; the elective modules, on the other hand, identify competences in technical specializations.

b) Application of the teaching and exam-oriented perspective of the tekom Competence Framework

The tekom Competence Framework is the basis for the qualification consultations offered by tekom, through which informally acquired knowledge and knowledge requirements are determined.

The Competence Framework is the basis of the exam, with the objective of obtaining a tekom certificate. The teaching contents and learning objectives are the basis for education and training programs for technical communication and are used by educational institutes as a basis for the curricula.

c) Requirements of the Qualification Levels

1. The following describes the basis for qualification for a tekom certificate. Qualification is possible in two steps: Professional Level and Expert Level. The definitions are in accordance with the levels of the European Qualification Framework (EQF) named below.
2. Professional Level Qualification: EQF 4 (3):
   Knowledge: EQF 4: Factual and theoretical knowledge in broad contexts within a field of work or study.

   Practical abilities: EQF 4: A range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study.

   Competence: EQF 3: Take responsibility for completion of tasks in work or study adapt own behaviour to circumstances in solving problems.
3. Expert Level Qualification: EQF 5 (4)

Knowledge/comprehension: EQF 5: Comprehensive, specialised, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge.

Practical abilities: EQF 5: A comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems.

Competence: EQF 4: Exercise self-management within the guidelines of work or study contexts that are usually predictable, but are subject to change supervise the routine work of others, taking some responsibility for the evaluation and improvement of work or study activities.

d) Notes on Teaching Perspectives for the Contents

Perspectives for education arise from the EQF levels for teaching and knowledge dissemination. The following are notes given on the respective scopes.

Teaching perspectives: Without reflection: Dissemination of knowledge and facts, i.e. definitions, functions and functionality, characteristics, properties, examples, aspects, criteria.
Example: "Illustration of the central functions of a Component Content Management System."

Teaching perspectives: With reflection: Dissemination of knowledge and facts, comprehension and reflection, i.e. definitions, functions and functionality, characteristics, properties, examples, aspects, criteria, prerequisites, restrictions, aptitude, application and use scenarios, usefulness, objectives, advantages and disadvantages.
Examples: "Explanation of advantages and disadvantages as well as restrictions in the use of certain publication media and output devices", "Use scenarios of automated publication processes."

Teaching perspectives: Practical abilities and application: Dissemination of proficiencies, i.e. methods, principles, processes, procedures.
Example: "Explanation of structuring methods."

e) Notes for Learning Objectives

The learning objectives "knowledge, comprehension, practical abilities and application", in accordance with the qualification levels of the European Qualifications Framework, have various characteristics with regard to depth of content, extent, and depth of cognitive processing of teaching contents. The following describes the learning objectives that apply to the different qualification levels.

Modeled after Bloom's Taxonomy of Educational Objectives:

- Verbs indicating the acquisition of knowledge: name, specify, enumerate, list, reproduce, recite, invoke, demonstrate, record, delineate.
- Verbs indicating the acquisition of comprehension: describe, clarify, formulate, illustrate, distinguish, classify, indicate, associate, outline, arrange, compare, contrast, depict, represent, explain, identify, define, quote, report.

- Verbs for practical abilities: be able to apply, carry out, transmit, perform, produce, calculate, edit, evaluate, contribute, utilize, organize, create, deduce, interpret, solve, design.

Knowledge for the Professional Level on the EQF 4 level: Reproduction of factual knowledge, terms, simple definitions, data, events or rough illustrations of theories, recall and reproduction of facts, terms, concepts and answers.
Example: “Knowing the definition of product safety”.

Practical abilities/application for the Professional Level on the EQF 4 level: Use of facts, application of methods, implementation, realization of processes.
Examples: “Ability to create a warning notice correctly”, “Familiarity with processes and the different phases of information development”.
Knowledge/comprehension for the Expert Level on the EQF 5 level:
Knowledge: Reproduction of factual knowledge, terms, simple definitions, data, events or rough illustrations.
Example: “Knowing the definition of HTML”.

Comprehension: State and explain issues in one’s own words, illustrate theories, constructs and laws, comprehension of context, organize, compare, interpret, describe, reproduction of basic ideas with regard to facts, terms, ideas and concepts in one’s own words.
Example: “Comprehending advantages and disadvantages of information development structured in modules”.

Practical abilities/application for the Expert Level on the EQF 5 level: Use of facts, application of methods, implementation, realization of processes, independent problem solving even in new situations.
Example: “Ability to develop a structuring concept”, “Ability to carry out a product use analysis”.

f) Notes on the Use of the Teaching and Exam-Oriented Perspective of the tekom Competence Framework

The following will clarify how the teaching and exam-oriented perspective of the tekom Competence Framework can be used in teaching and preparing for the exam.

1. The mandatory area is subdivided into mandatory areas 1-4. The mandatory area applies to the Professional Level Qualification and the Expert Level Qualification.
2. There are two different elective areas: Elective area 1 is subdivided again into specification paths 1.1 - 1.3, elective area 2 into specification paths 2.1 - 2.5. A specification path must be chosen for both elective areas.
3. There are various topics (formerly submodules) in mandatory and elective areas (formerly modules).
4. Topics contain various points under which various subpoints and contents (formerly teaching contents) are listed. Certain points must be addressed only on the Expert Level.
5. The contents (formerly teaching contents) specify everything that the subpoint includes. Together with the teaching perspectives, the contents substantiate everything that must

be disseminated about the respective subpoint and which perspectives on it should be absorbed. The learning objectives substantiate and specify, with reference to the respective teaching content, what should be accomplished through qualification.

All contents for the Professional Level are also mandatory contents for the Expert Level, which must be, however, disseminated more widely, more comprehensively and more in depth for this level.

Units for the recommended teaching and training: Pro Coin = 30 hours

Example 1

Mandatory Area

Mandatory Area 1: Field Analysis

The recommended teaching and training gives guidance on the length of time these mandatory areas should be covered for qualification on the Professional Level and the Expert Level.

Topic: Legal and normative requirements

Point: Legal requirements

Subpoint: Risks and dangers of the product

Content: Risk assessment
Teaching perspectives: With reflection
Learning objectives: Professional Level knowledge,
Expert Level knowledge/comprehension

Interpretation:

Contents: Basic concept of risk analysis
The training provider disseminates knowledge and facts here, e.g. definitions: “What does a risk assessment mean?”, functions and functionality: “What is a risk assessment for?”, gives examples: “Example of a risk assessment” or aspects: “A risk assessment investigates the following aspects” etc.

Learning objectives: To familiarize certificate participants with the essential features of a risk analysis.
As a learning objective, a certificate participant on Professional Level EQF 4 should know what a risk assessment is and what it looks like.
A certificate participant on Expert Level EQF 5 should, moreover, have understood what the

function of a risk analysis is and, for example, be able to explain in his own words how it could be structured.

Example 2

Mandatory area

Mandatory area 1: Field analysis
The recommended teaching and training gives guidance on the length of time these mandatory areas should be covered for qualification on the Professional Level and the Expert Level.

Topic: Target groups and country specifics

Point: Documentation-relevant target group characteristics

Subpoint: Characterization of target groups

Contents: Methods of target group characterization, e.g. target group analysis (e.g. persona method, who-does-what matrix)
Teaching perspectives: With reflection
Learning objectives: Professional Level knowledge, Expert Level knowledge/comprehension

Interpretation:

Contents: Methods of target group characterization

The training provider disseminates knowledge and facts here, e.g. definitions: “What does a target group analysis mean?”, “Possible methods of target group characterization are…” functions and functionality: “A target group analysis is for…”, gives examples: “An example of a target group analysis is…” or also aspects, criteria, prerequisites, restrictions, aptitude, application and use scenarios, usefulness: “The usefulness of a target group analysis is…”, objectives: “The various methods of target group analysis pursue the objectives…”, advantages and disadvantages: “These methods of target group analysis have the following advantages and disadvantages…” etc.

Learning objectives: To familiarize certificate participants with different methods of target group analysis and their characteristics.
As a learning objective, a certificate participant on Professional Level EQF 4 should know what a target group analysis is and how it is structured.

A certificate participant on Expert Level EQF 5 should, moreover, have understood how a target group analysis is useful, what advantages or disadvantages various methods of target group analysis have, be able to explain in his own words how it could be structured and, for example, be able to state an example and a use scenario in his own words.

Teaching perspectives: With reflection

Learning objectives: Professional Level knowledge, Expert Level

knowledge/comprehension

Teaching perspectives: Practical abilities and application

Learning objectives: Professional Level knowledge, Expert Level knowledge/comprehension

Teaching perspectives: Without reflection

Teaching perspectives: Practical abilities and application

Learning objectives: Professional Level knowledge, Professional Level practical abilities/application, Expert Level knowledge/comprehension, Expert Level practical abilities/application

Legend

Teaching perspectives: With reflection
Teaching perspectives: Without reflection
Teaching perspectives: Practical abilities and application:
Mixed areas of competence: Expert Level and Professional Level
Mixed fields of competence Expert Level and Professional Level, but different learning objectives
Fields of competence only for Expert Level

2. Mandatory Area

Professional: 11 coins (330 hours) / 15 coins (450 hours für Expert / mandatory for everybody

2.1. Mandatory area 1: Context analysis

Professional: 1,5 coins (45 hours) / Expert: 3 coins (90 hours)

2.1.1 Topic 1: Legal and normative requirements

Legal requirements

The legal requirements placed on an information product affect, among other things, the risks and hazards associated with the product, product safety, duty to instruct or compliance. Only some of the legal requirements and obligations that apply when placing products on the market are a direct result of legal provisions. Court decisions continue to be hugely significant.

The legal provisions for information products are derived from the legal provisions for the condition of products and are also designated as the “duty to instruct”.

All the legal requirements that apply to an information product are determined and documented as a result of an analysis. These requirements are stated in concrete terms during the concept development phase.

- Risks and dangers associated with the product
  - ***Risk assessment***
    Ressource: Professional: knowledge, Expert: knowledge / understanding
  - ***Legal significance of the risk assessment***
    Ressource: Professional: knowledge, Expert: knowledge / understanding
  - ***Risk categories and hazard classes (hazard levels)***
    Ressource: Professional: knowledge, Expert: knowledge / understanding
  - ***Planning and executing a risk assessment***
    Ressource: Professional: knowledge, Expert: knowledge / understanding
- Product safety
  - ***Basic principles of Product Safety***
    Ressource: Professional: knowledge, Expert: knowledge / understanding
  - ***Main features of Product Safety Law***
    Ressource: Professional: knowledge, Expert: knowledge / understanding
  - ***Characteristics of safe and unsafe products***
    Ressource: Professional: knowledge, Expert: knowledge / understanding
  - ***Safety requirement-related regulations***
    Ressource: Professional: knowledge, Expert: knowledge / understanding
  - ***Requirements placed on information products in pursuance of Product Safety Law***
    Ressource: Professional: knowledge, Expert: knowledge / understanding
  - ***Manufacturer’s product observation obligations***
    Ressource: Professional: knowledge, Expert: knowledge / understanding
  - ***Organization and operating principle of market observation (e.g., at European level)***
    Ressource: Professional: knowledge, Expert: knowledge / understanding
  - ***Methods of achieving or improving product safety (e.g., design measures, safety devices, safety notes and warning messages)***
    Ressource: Professional: knowledge, Expert: knowledge / understanding
- Duty to instruct
  - ***Requirements based on duty to instruct: Requirements stating which types of information products have to be supplied according to which particular specifications (e.g., Product Safety Law, EU Machinery Directive)***
    Ressource: Professional: knowledge, Expert: knowledge / understanding
  - ***Documentation obligations pursuant to applicable legal provisions (laws and guidelines)***
    Ressource: Professional: knowledge, Expert: knowledge / understanding

- 2 ***Possible ways of meeting documentation obligations***
  Ressource: Professional: knowledge, Expert: knowledge / understanding

1 Legal consequences

- 2 ***Main features of contractual liability***
  Ressource: Professional: knowledge, Expert: knowledge / understanding
- 2 ***Main features of legal product liability***
  Ressource: Professional: knowledge, Expert: knowledge / understanding
- 2 ***Liability in the field of Technical Communication (e.g., personal and entrepreneurial liability)***
  Ressource: Professional: knowledge, Expert: knowledge / understanding
- 2 ***Requirements regarding content placed on information products as a result of product liability***
  Ressource: Professional: knowledge, Expert: knowledge / understanding
- 2 ***Formal requirements placed on information products as a result of product liability***
  Ressource: Professional: knowledge, Expert: knowledge / understanding
- 2 ***Possible legal consequences arising from defective information products***
  Ressource: Professional: knowledge, Expert: knowledge / understanding
- 2 ***Transposition of supranational law (e.g., EU Directives) into national law; significance for product liability***
  Ressource: Professional: knowledge, Expert: knowledge / understanding

1 Copyright law and right of use

- 2 ***Basic principles of copyright law and legal right of use (license law)***
  Ressource: Professional: knowledge, Expert: knowledge / understanding
- 2 ***Relevance of copyright law and legal right of use in Technical Communication***
  Ressource: Professional: knowledge, Expert: knowledge / understanding
- 2 ***Potential conditions of use***
  Ressource: Professional: knowledge, Expert: knowledge / understanding
- 2 ***Copyright law in case of sources and requirements placed on legal use of sources (e.g., images, text, software licenses)***
  Ressource: Professional: knowledge, Expert: knowledge / understanding
- 2 ***Use of materials protected by license rights (e.g., software, photographic material)***
  Ressource: Professional: knowledge, Expert: knowledge / understanding
- 2 ***Legal situation where open source materials are used***
  Ressource: Professional: knowledge, Expert: knowledge / understanding

1 Data protection

- 2 ***Basic principles of data protection (data privacy)***
  Ressource: Professional: knowledge, Expert: knowledge / understanding

- ***Relevance of data protection to Technical Communication***
  Ressource: Professional: knowledge, Expert: knowledge / understanding

Product compliance

- ***Basic principles of product compliance***
  Ressource: Expert: knowledge / understanding
- ***Declarations of Conformity in information products***
  Ressource: Expert: knowledge / understanding
- ***Allocation of tasks and roles with regard to ensuring product compliance***
  Ressource: Expert: knowledge / understanding
- ***Requirements placed on Technical Communication for product compliance and placing products on the market***
  Ressource: Expert: knowledge / understanding

Legal research

- ***Basic principles of legal research***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Laws that are relevant to Technical Communication***
  Ressource: Expert: knowledge / understanding
- ***Public information sources, sources of supply and information portals***
  Ressource: Expert: knowledge / understanding
- ***Legal research tools***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Archive searches***
  Ressource: Expert: knowledge / understanding, Expert: be able to

Data and IT security

- ***Data and IT security in relation to content of information product***
  Ressource: Expert: knowledge / understanding
- ***Data and IT security in the creation process***
  Ressource: Expert: knowledge / understanding
- ***Data and IT security in relation to delivering the information product***
  Ressource: Expert: knowledge / understanding

Legal requirements placed on Document Management

- ***Archiving of information products***
  Ressource: Expert: knowledge / understanding
- ***Audit reliability***
  Ressource: Expert: knowledge / understanding
- ***Retention periods***
  Ressource: Expert: knowledge / understanding
- ***Storage locations***
  Ressource: Expert: knowledge / understanding

- ***Consequences and liability in event of inadequate Document Management***
  Ressource: Expert: knowledge / understanding

Normative requirements

National and supranational standards specify further requirement placed on information products in concrete terms. A standard contains a definition of the requirements placed on technical equipment, components, system modules and technical interfaces, processes and procedures.

Standards do not have any legally binding status because they are produced by private standards bodies rather than by government legislation. They are essentially applied on a voluntary basis. Nevertheless, the application of standards may be made mandatory by legal regulations. The following requirements placed on Technical Documentation as a result of technical standards are liable to constant change at both national and international level.

All the normative requirements that apply to an information product are determined and documented as a result of analyzing applicable standards. These requirements are stated in concrete terms during the concept development phase.

Standards

- ***Relevance of standards to Technical Communication and requirements placed on information products as a result of normative requirements***
  Ressource: Professional: knowledge, Expert: knowledge / understanding
- ***Standard for the preparation of Technical Documentation (IEC/EN 82079)***
  Ressource: Professional: knowledge, Expert: knowledge / understanding, Expert: be able to
- ***Interplay between standards, directives and laws***
  Ressource: Professional: knowledge, Expert: knowledge / understanding
- ***Legally binding nature of standards***
  Ressource: Professional: knowledge, Expert: knowledge / understanding
- ***Market relevance of standards (e.g., EU Standards, ISO Standards, DIN Standards)***
  Ressource: Professional: knowledge, Expert: knowledge / understanding
- ***Fields of application of standards (for products, e.g., Low-voltage directive, Pressure equipment directive, Medical equipment standard)***
  Ressource: Professional: knowledge, Expert: knowledge / understanding
- ***International standards compared with European standards that regulate the same subject matter (e.g., standards in the ANSI series, IEC/EN 82079)***
  Ressource: Professional: knowledge, Expert: knowledge / understanding

- Standardization
  - ***Purposes and basic principles of standardization work***
    Ressource: Expert: knowledge / understanding
  - ***National and international standards bodies***
    Ressource: Expert: knowledge / understanding
  - ***Horizontal and vertical standards (product standards)***
    Ressource: Expert: knowledge / understanding
  - ***Identification of type of standard by referring to the name of a standard***
    Ressource: Expert: knowledge / understanding
  - ***Safety-related distinction between A, B and C standards according to ISO/IEC Guides***
    Ressource: Expert: knowledge / understanding
  - ***International Classification for Standards (ICS) as an international classification criterion for standards***
    Ressource: Expert: knowledge / understanding
  - ***Establishing, organizing and cooperating on national and international standardization***
    Ressource: Expert: knowledge / understanding
- In-house standardization in companies
  - ***Purposes of factory standards***
    Ressource: Expert: knowledge / understanding
  - ***Subject matter of factory standards***
    Ressource: Expert: knowledge / understanding
  - ***Areas in which factory standards are applied***
    Ressource: Expert: knowledge / understanding
  - ***Factory standards and Technical Communication***
    Ressource: Expert: knowledge / understanding
- Compliance with standards
  - ***Normative requirements of international markets***
    Ressource: Expert: knowledge / understanding
  - ***Documentation requirements (e.g., in requirements specifications and functional specifications)***
    Ressource: Expert: knowledge / understanding
  - ***Checklists taken from standards***
    Ressource: Expert: knowledge / understanding
  - ***Application and implementation of standards***
    Ressource: Expert: knowledge / understanding, Expert: be able to
  - ***Seals of approval and certificates***
    Ressource: Expert: knowledge / understanding
  - ***Accredited testing institutes***
    Ressource: Expert: knowledge / understanding

Approval and testing of compliance with standards
Ressource: Expert: knowledge / understanding

Researching information on standards

Information sources, sources of supply and information portals
Ressource: Expert: knowledge / understanding

Standards repositories
Ressource: Expert: knowledge / understanding

Country-specific requirements

Information products for different countries and markets must meet country-specific requirements. These include:

- Technical requirements
- Culturally-specific aspects of the target group
- Legal and normative requirements

Taking these requirements into account in the information product is relevant when it comes to placing the product on the market, product compliance and usability. Information on this can be obtained directly from destination countries, from technical requirements and product specifications, from contracts or by research.

The resulting requirements placed on information products must be taken into account during concept development and be implemented when the product is produced.

Legal and normative requirements

Country-specific legal and normative requirements placed on information products
Ressource: Expert: knowledge / understanding

2.1.2 Topic 2: Target group and country specifics

Target groups

Target group descriptions characterize the users of an information product in a given usage situation. Every information product must be easily understandable and usable for its target group. One must know the information product's target group and its requirements in order to achieve this. The characteristics of the information product can be determined and derived from this starting point.

Relevant features describe target groups and usage situations. Various methodological approaches make it possible to follow a systematic procedure when analyzing target groups and their usage situation.

A target group analysis produces specific guidance on how to develop a product.

1 Documentation-relevant target-group characteristics

- 2 ***Target-group characteristics that have an impact on the use of an information product and consequences for creating an information product (e.g., age, level of expert knowledge, technological expertise, level of education, culture, language skills, media competence, color blindness, disabilities, users' technical equipment, rights of use, distribution channels)***
  Ressource: Professional: knowledge, Expert: knowledge / understanding
- 2 ***The target group's usage environment (e.g., in order to determine the most suitable publication medium)***
  Ressource: Professional: knowledge, Expert: knowledge / understanding, Expert: be able to
- ***The target group's degree of familiarity with technologies***
  Ressource: Professional: knowledge, Expert: knowledge / understanding, Expert: be able to

1 Characterization of target groups

- 1 ***Objectives of characterizing target groups and target-group analysis***
  Ressource: Professional: knowledge, Expert: knowledge / understanding
- ***Classification and characterization of target groups***
  Ressource: Professional: knowledge, Expert: knowledge / understanding, Expert: be able to
- ***Target-group related data gathering, acquisition of "hard data" regarding the target group (e.g., from studies, the company's customer contacts (e.g., from Service, Support) or from usability studies)***
  Ressource: Professional: knowledge, Expert: knowledge / understanding, Expert: be able to
- 1 ***Methods of characterizing target groups, e.g. target group analysis (e.g., Persona method, who-does-what matrix)***
  Ressource: Professional: knowledge, Expert: knowledge / understanding

2 Target group analysis

- ***Planning, executing and assessing a target group analysis, basic principles and systematic problems***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- 1 ***Acquiring information using various target-group analysis methods (e.g., methods that aim to describe target-group features as opposed to methods that are geared towards the use of the product/usage situation)***
  Ressource: Expert: knowledge / understanding
- ***Using results obtained from target group analyses, user profiles and "hard data" for the information product concept***
  Ressource: Expert: knowledge / understanding, Expert: be able to

Dovetailing target group analyses with other methods (e.g., analysis of product usage, such as use cases, task analysis)

Ressource: Expert: knowledge / understanding, Expert: be able to

Trends in users' behaviors

Developments and trends in use of media, expectations and requirements placed on media and presentations

Ressource: Expert: knowledge / understanding, Expert: be able to

Country-specific requirements

Information products for different countries and markets must meet country-specific requirements. These include:

- Technical requirements
- Culturally-specific aspects of the target group
- Legal and normative requirements

Taking these requirements into account in the information product is relevant when it comes to placing the product on the market, product compliance and usability. Information on this can be obtained directly from destination countries, from technical requirements and product specifications, from contracts or by research.

The resulting requirements placed on information products must be taken into account during concept development and be implemented when the product is produced.

Culturally-specific aspects of the target group

Culturally-specific differences in the way that information is processed (e.g., characters, colors, images, reading direction)

Ressource: Professional: knowledge, Expert: knowledge / understanding

Cultural aspects of pictorial and symbolic language

Ressource: Professional: knowledge, Expert: knowledge / understanding

Culturally-specific differences regarding expected ways in which information is presented

Ressource: Professional: knowledge, Expert: knowledge / understanding

Cultural and country-specific aspects of the target group when using the information product and when using media

Ressource: Professional: knowledge, Expert: knowledge / understanding

Cultural and country-specific aspects of the target group which might impact use of the product

Ressource: Professional: knowledge, Expert: knowledge / understanding

Culturally-specific methods of working

Ressource: Professional: knowledge, Expert: knowledge / understanding

Country-specific aspects and requirements (e.g., linguistic, terminological, technical, organizational) that must be taken into account when creating information products for international markets.
Ressource: Professional: knowledge, Expert: knowledge / understanding

2.1.3 Topic 3: Products, technologies

Products and technologies

Before developing an information product, the characteristics of the product and the resulting requirements placed on the information product must be determined. Conversely, the information product may result in requirements being placed on the product.

An information product must describe all relevant functions and conditions for users. The product structure and possible versions which must be taken into account in the information product are determined when analyzing the product. The use of a product in every phase of the product's life-cycle is another aspect of product analysis. The product technology that is used is also investigated and conclusions are drawn regarding its degree of familiarity and the expected knowledge of users. Allowance must be made for possible interactions between the information product and the product. The features of the product, such as a display, have, for instance, an influence on how an information product can be provided.

The results of this process step must be taken into account during concept development and be implemented when the product is produced.

Product analysis

Acquisition of product knowledge (technologies, application, risks, safety aspects etc.) in order to develop information products
Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to

Analysis of product structure, controls, product features, functions and product usage (including accessories and spare parts) in every phase of the product life-cycle (e.g., commissioning, operation, control, maintenance, service, repair, disposal) and of relevant information for this purpose (e.g., compatibility with previous/subsequent products, modifications, development)
Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to

Analysis of product versions
Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to

Analysis of interfaces and integration into systems (plant manufacturing)
Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to

Analysis of use of product

- 1 ***Analysis of use of product (e.g., use-case analysis, task analysis, observation, context interviews)***
  Ressource: Expert: knowledge / understanding
- 2 ***Planning, executing and evaluating a specific method of analyzing product usage; basic principles and systematic problems***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- 2 ***Use results obtained by analyzing product usage for the information product concept***
  Ressource: Expert: knowledge / understanding, Expert: be able to

2 Product features and information product

- 2 ***Features of the product (e.g., controls, display) and resulting requirements, restrictions and options for the information product (e.g., data transfer, operation and control using apps, interfaces)***
  Ressource: Expert: knowledge / understanding
- 2 ***Requirements placed on the product by virtue of the information product (e.g., how must the product be constructed in order to provide the information product, e.g., storage of information, codes)***
  Ressource: Expert: knowledge / understanding
- 2 ***Specific requirements in the case of electronic information products (e.g., integration of context-sensitive Help and/or embedded Help in software user interfaces)***
  Ressource: Expert: knowledge / understanding

2 Product technology

- ***Analysis of technologies used and their degree of familiarity to the target group (e.g., whether a familiar or unfamiliar technology)***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Deducing, from such analysis, the consequences of technologies used on the information product's concept (e.g., whether familiar or unfamiliar technology, whether market launch or already established on the market)***
  Ressource: Expert: knowledge / understanding, Expert: be able to

2 Competitor analysis

- ***Competitor analysis and its use in the field of Technical Communication***
  Ressource: Expert: knowledge / understanding
- ***Comparing information products with corresponding products from competitors (e.g., benchmarking)***
  Ressource: Expert: knowledge / understanding

Country-specific requirements

Information products for different countries and markets must meet country-specific requirements. These include:

- Technical requirements
- Culturally-specific aspects of the target group

- Legal and normative requirements

Taking these requirements into account in the information product is relevant when it comes to placing the product on the market, product compliance and usability. Information on this can be obtained directly from destination countries, from technical requirements and product specifications, from contracts or by research.

The resulting requirements placed on information products must be taken into account during concept development and be implemented when the product is produced.

Technical requirements

Country-specific technical requirements (e.g., materials, socket outlets, voltage) that must be taken into account when creating information products for international markets.

Ressource: Professional: knowledge, Expert: knowledge / understanding

2.1.4 Topic 4: Media

Media

Information products can be made available to the user using various media. When creating an information product, a decision must be made as to which types of media are most suitable under the given underlying conditions. Use by the target group, the product that is to be described, how the information product can be displayed on the various output devices and which media standards can be used are all factors that are relevant to this decision.

The results of this process step are used for media planning.

Types of media

Types of media that are inherently representational (e.g., text, image, graphic, 3D model, film, audio) or inherently interactive (e.g., hypertext, interactive image, interactive graphic, interactive 3D model, interactive film, animation, simulation)

Ressource: Professional: knowledge, Expert: knowledge / understanding

Classification of media types (e.g., categorization according to type of representation) and use of classification (e.g., as meta data and attributes)

Ressource: Professional: knowledge, Expert: knowledge / understanding

Publication media and output devices

Publication media (e.g., print, Internet browsers, viewers, audio, sensors)

Ressource: Professional: knowledge, Expert: knowledge / understanding

Output devices (e.g., PC screen, smartphone, tablet, data medium, loudspeaker, projector, glasses, headset, paper) and their characteristics for integrating information products, e.g., in terms of storage, archivability, readers, mobility, availability, usage environment (e.g., dust, temperature, soiling, humidity, mobility, online connection)

Ressource: Professional: knowledge, Expert: knowledge / understanding

Media standards

Technical source and output formats and standards for encoding content (e.g., PDF, HTML5, EPUB, XML, JSON, 3D-PDF, U3D, WebGL, 3D-XML, MPEG4, MPEG3, web apps, hybrid apps, native apps)

Ressource: Expert: knowledge / understanding

Restrictions imposed by media standards with regard to their use for information products and dependence on publication media, output devices or operating systems

Ressource: Expert: knowledge / understanding

2.2. Mandatory area 2: Planning

Professional: 0,5 coins (15 hours) / Expert: 1 coin (30 hours)

2.2.1 Topic 1: Product lifecycle support and phases of information development

Product life-cycle support

Information products offer the user assistance in various phases of a product's life-cycle, e.g. installation, commissioning, use, maintenance and disposal.

Distinctions are made between planning the creation of an information product based on product development, product changes and the need to modify an information product without modifying the product.

The content of an information product is inextricably linked to information from other business units, e.g., Development, Marketing, Training and Customer Service. In order to create information products effectively and efficiently, the need to coordinate timings with these other business units must also be taken into account.

Project planning results are used in the next phases.

Basic principles of product life-cycle

Presentation and workflow description of the product's life-cycle

Ressource: Professional: knowledge, Expert: knowledge / understanding

Interrelationship and interplay between product life-cycle and creating information products (e.g., documentation needs, necessity, development processes and delivery of information products)

Ressource: Professional: knowledge, Expert: knowledge / understanding

Dovetailing the development of information products with product development

Product development processes and development of information products having industry-specific differences (e.g., processes in mechanical engineering, plant construction, automotive engineering or software development)

Ressource: Professional: knowledge, Expert: knowledge / understanding

- ***Integration of requirements placed on information products (e.g., necessity of a display) into the product specification (e.g., availability of a display)***
  Ressource: Professional: knowledge, Expert: knowledge / understanding
- ***Dovetailing the process of developing information products with the process of product development (e.g., by setting milestones)***
  Ressource: Professional: knowledge, Expert: knowledge / understanding
- ***Information flows between Technical Communication and Product Development***
  Ressource: Professional: knowledge, Expert: knowledge / understanding

Planning information products when products are launched

- ***Planning the necessary information products for a product***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Planning the information architecture***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Change Management during product development***
  Ressource: Expert: knowledge / understanding, Expert: be able to

Planning information products in the event of product changes

- ***Determining the information products and contents affected by a modification (e.g., content modules, tables)***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Determining the scope of a modification (e.g., additional information or inventory change) and extent of modification (e.g., minimal change, alterations or complete overhaul, e.g., terminology)***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Determining change histories and versions***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Change Management in the event of product changes after completion of product development***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Planning translation in the event of changes***
  Ressource: Expert: knowledge / understanding, Expert: be able to

Planning the correction of information products (without any modifications to the product)

- ***Determining the extent of corrections or additions and contents that are to be corrected***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Prioritizing and evaluating the urgency of corrections***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Informing the target group about corrections***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Distribution of corrections***
  Ressource: Expert: knowledge / understanding, Expert: be able to

- ***Replacement of corrected information product and ensuring delivery (e.g., updates via the Internet, downloads)***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Arranging recalls***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Planning translation in the event of corrections***
  Ressource: Expert: knowledge / understanding, Expert: be able to

Dovetailing the development of information products with other business units

- ***Dovetailing Technical Communication with other business units (e.g., Marketing, Product Management, Sales, Training)***
  Ressource: Expert: knowledge / understanding
- ***Distribution channels and resulting requirements placed on technical documentation (e.g., formats, media, data formats)***
  Ressource: Expert: knowledge / understanding
- ***Differences in distribution channels (e.g., B2B, B2C, C2C) and their relevance to Technical Communication***
  Ressource: Expert: knowledge / understanding
- ***E-commerce and its relevance to Technical Communication***
  Ressource: Expert: knowledge / understanding

2.2.2 Topic 2: Basic principles of information creation planning

Information creation planning

The requirements placed on every information product differ in each project. This is why planning the creation of information for individual detailed tasks must be set up specifically. This includes defining how the process is organized and which resources are needed in order to achieve implementation.

It includes defining how the process is organized, which resources are needed in order to achieve implementation, what knowledge the executing employees must have, which interfaces must be taken into account and which requirements have to be met in order for all the individual substeps in the information development process to run smoothly. The basis of planning is usually provided by empirical values obtained from previous projects.

The entire information development process (time, tasks, contents and workflow) is devised in advance during information creation planning.

Basic principles of information planning

- ***Presentation of the information development process and detailed description of phases and work packages when developing information products***
  Ressource: Professional: knowledge, Expert: knowledge / understanding

- *Different variants of the information development process with individual phases or phase-related tasks (e.g., industry-dependent, product-dependent, depending on Project Management method)*
  Ressource: Professional: knowledge, Expert: knowledge / understanding
- *Options for organizing general and specific processes for creating information products*
  Ressource: Professional: knowledge, Expert: knowledge / understanding

2.2.3 Topic 3: Basic principles of Project Management

Project Management

Project Management involves organizing, executing and monitoring the information product's development process and process steps, working tasks and resources.

This is where project details are specified and planned. The required Project Management techniques and tools are also described.

The result of Project Management highlights the scope and effort required for the information product creation project and is implemented in subsequent phases.

Basic principles of Project Management

- *Projects and project features (typical project phases, setup and workflow organization in projects, differences and shared features of projects and processes, Technical Communication projects)*
  Ressource: Professional: knowledge, Expert: knowledge / understanding
- *Tasks, objectives and need for Project Management*
  Ressource: Professional: knowledge, Expert: knowledge / understanding
- *Project communication tasks and objectives*
  Ressource: Professional: knowledge, Expert: knowledge / understanding
- *Creating requirement specifications, functional specifications, specifications*
  Ressource: Expert: knowledge / understanding, Expert: be able to
- *Organizational roles in projects, competence requirements placed on a Project Manager and the project team*
  Ressource: Professional: knowledge, Expert: knowledge / understanding

Archiving

All the relevant project information, project results and information products must be archived in order to complete a project. Electronic archiving enables non-modifiable, long-term retention of electronic information. Various concepts and organizational schemes are adopted in order to ensure systematic archiving. Electronic archiving is assisted by various tools, the functions they provide and their components.

All the project results and project-relevant information are archived as a result of this process step.

Project archiving

- ***Archiving all project results and project-relevant information (e.g., information products, supplier's documentation, service provider's documentation, certificates and declarations as well as internal information)***
  Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to

2.3. Mandatory area 3: Concept development

Professional: 2 coins (60 hours) / Expert: 3 coins (120 hours)

2.3.1 Topic 1: Documents and information architecture

Information products

Different information products may differ fundamentally in terms of their characteristics and function. The first task when developing a concept is, at the highest level, to define which type of documentation is involved, which type of information product is being created and what its communicative function is. The product life-cycle is an important starting point for this purpose. For each phase of the product life-cycle, the user needs different information that has to be documented for the user.

The concept for information products defines the features and characteristics of the information products.

Internal and external documentation

- ***External documentation***
  Ressource: Professional: knowledge, Expert: knowledge / understanding
- ***Internal documentation***
  Ressource: Professional: knowledge, Expert: knowledge / understanding
- ***Special types of documentation (e.g., API (Application Programming Interface) documentation during software development)***
  Ressource: Professional: knowledge, Expert: knowledge / understanding

Types of information products

- ***Classification and types of information products (e.g., installation instructions, operating instructions, maintenance instructions)***
  Ressource: Professional: knowledge, Expert: knowledge / understanding
- ***Connection between product life-cycle and information products***
  Ressource: Professional: knowledge, Expert: knowledge / understanding

Function of information products

- ***Communicative functions (e.g., instructions, information)***
  Ressource: Professional: knowledge, Expert: knowledge / understanding

Design principles for information products that fulfill specific communicative functions (e.g., depending how the information product is used, e.g., for installing, operating, training, e-learning)

Ressource: Professional: knowledge, Expert: knowledge / understanding, Expert: be able to

Information architecture

The information architecture specifies which contents are incorporated in the information product with which structure, which function and at what depth. The fundamental principles for the information architecture, such as target group analysis and usage situation, are evident from the context analysis.
The way in which other contents are to be integrated, e.g., into supplier's documentation, must also be defined. Necessary meta data for managing contents must be defined.

The information architecture provides the structural and content-related concept for developing information products.

Developing the information architecture

Information architecture

Ressource: Professional: knowledge, Expert: knowledge / understanding

Content-related aspects for defining the information architecture (e.g., target groups, for which information products, media, structure, information types, communicative function)

Ressource: Professional: knowledge, Expert: knowledge / understanding

Creating an information architecture

Ressource: Expert: knowledge / understanding, Expert: be able to

Assessing an information architecture

Ressource: Expert: knowledge / understanding, Expert: be able to

Structuring the information

Structuring the information

Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to

Design layout of a content structure

Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to

Techniques and aids for structuring information and establishing a content structure (e.g., mind maps)

Ressource: Professional: knowledge, Expert: knowledge / understanding

Structural elements (e.g., functional units from Funktionsdesign®)

Ressource: Professional: knowledge, Expert: knowledge / understanding

- 1 ***Media-dependent structures and breakdowns (e.g., document: chapters, hypertext: topics)***
  Ressource: Professional: knowledge, Expert: knowledge / understanding
- 1 ***Structural and dividing elements of an information product (e.g., safety, installation)***
  Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to
- 2 ***Placing and sequencing of structural elements within the outline of the document (e.g., safety chapter at the start)***
  Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to
- 1 ***Types of information (information in Information Mapping®, e.g., step-by-step instructions, concept, task, reference, warning note)***
  Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to
- 1 ***Structuring principles (e.g., structuring geared towards product, type of user, usage situation, task, degree of difficulty)***
  Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to
- 1 ***Structuring methods (e.g., topic-oriented structuring, hierarchical structure, flat structure, information hiding) for presentation and output devices***
  Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to
- 1 ***Structuring standards (e.g., Funktionsdesign®, Information Mapping®, Class Concept Method®, DITA, Topic, Reference)***
  Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to
- ***Technical realization of a structuring standard (e.g., technical implementation, methodology and content related implementation, organizational launch)***
  Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to
- 1 ***Technical standards that make statements regarding the structure of information products and/or suggest prototyping outlines (e.g., IEC/EN 82079; VDI 4500; DITA; functional authoring without layout stipulations, structuring methods)***
  Ressource: Professional: knowledge, Expert: knowledge / understanding

1 Meta data

- 1 ***Meta data***
  Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to
- ***Use of meta data (e.g., for content, production, publication, delivery, archiving)***
  Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to

2 Integration concept

- ***Standards and requirements placed on supplier's documentation (e.g., delivery formats, contents, specifications, formats, rights of use)***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Creating a catalog of criteria and standards for supplier's documentation***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Concept for integrating other external documents and contents (e.g., certificates and declarations)***
  Ressource: Expert: knowledge / understanding, Expert: be able to

Access

Straightforward, quick access by the user is an essential prerequisite for effective, efficient use of an information product and its contents. This is why, before starting to create an information product, it is necessary to define how such access is to be made possible and what methods and technical options are to be used. It must also be ensured that the information product and its contents can be allocated to the respective product or product function in an error-free manner.

The concept for access defines accessibility and hence the usability of the information product.

Retrievability of information

- ***Navigation and search functions (e.g., tables of contents, indexes, glossaries, searchability, cross-reference structures)***
  Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to
- ***Cross-reference structures (e.g., where are cross-references created, where do cross-references point to, footnotes, internal links, external links)***
  Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to
- ***Principles for using cross referencing and linking of information (e.g., linking vs redundancy, cross-reference markers)***
  Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to
- ***Optimization of texts to ensure better retrievability using search engines (e.g., keywords, headings, use of synonyms)***
  Ressource: Professional: knowledge, Expert: knowledge / understanding, Expert: be able to

Availability of information products

- ***Requirements dictating which information, e.g., from a legal viewpoint, must be made available to the user (e.g., print, online)***
  Ressource: Expert: knowledge / understanding

- ***Aspects that must be taken into account when delivering information products (e.g., usability of information products, e.g., whether the target group can or cannot use the information product under the given conditions)***
  Ressource: Expert: knowledge / understanding
- ***Requirements regarding security (e.g., access, access rights, protection against duplication and revision)***
  Ressource: Expert: knowledge / understanding

Allocation of information to the product

- ***Allocating information products to products (physical and logical, e.g., by barcodes, embedded Help, context-sensitive Help)***
  Ressource: Expert: knowledge / understanding
- ***Allocating information and contents to product functions (e.g., augmented, context-sensitive), decision-making criteria for implementation (e.g., according to information product, information type or communicative function)***
  Ressource: Expert: knowledge / understanding
- ***Specifying which information must be made available using what media (e.g., print or electronic, augmented, embedded, data medium, online) and decision-making criteria for implementation (e.g., according to information product, information type or communicative function)***
  Ressource: Expert: knowledge / understanding

2.3.2 Topic 2: Methods

Methods

Methods are particularly important for standardizing content and structure and the creation processes. Examples of established methods are controlled language, document templates or DTDs. Various technologies as well as software-aided processes can support implementation and application.

The method concept determines which methods are used for which information products.

Information about terminology-based standardization can be found in a separate description of the support process.

Standardization methods

- ***Standardization***
  Ressource: Expert: knowledge / understanding
- ***Standardization-relevant aspects of an information product (e.g., language, structure, terminology, graphics concept, modules, Corporate Identity (CI))***
  Ressource: Expert: knowledge / understanding
- ***Stipulations and rules for the information development process (e.g., with regard to processes, internal and external interfaces, automation)***
  Ressource: Expert: knowledge / understanding, Expert: be able to

- ***Documentation of stipulations and rules (e.g., editorial guide, style guides, manuals, process guidelines)***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Standardization resources (e.g., document templates, format templates, design templates, style guides, templates, DTDs, variables, field functions)***
  Ressource: Expert: knowledge / understanding
- ***Creating and using standardization resources (e.g., document templates, format templates, design templates, style guides, templates, DTDs, variables, field functions)***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Introduction of standardization***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Language standardization (e.g., depending on intelligibility, translatability, reproducibility)***
  Ressource: Expert: knowledge / understanding
- ***Company-specific language standardization (e.g., standardized language, writing and spelling rules, style rules, phrases, boilerplate text, safety notes, controlled language)***
  Ressource: Expert: knowledge / understanding
- ***Rule-based writing and controlled language***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Appropriate contents for applying rule-based writing and controlled language, sentence structure in rule-based writing and in case of controlled language***
  Ressource: Expert: knowledge / understanding
- ***Media-neutral writing style***
  Ressource: Expert: knowledge / understanding, Expert: be able to

2.3.3 Topic 3: Content Management

Information flow

There are various methods of creating an information product efficiently and, in doing so, taking into account the different requirements placed on an information product as well as differences between various information products: Component-based Content Management, Information Management and Document Management.

The concept for the information flow must ensure that content and documents can be easily found and re-used.

Component-based Content Management and modularization

- ***Component-based Content Management***
  Ressource: Professional: knowledge, Expert: knowledge / understanding
- ***Modularization principles (e.g., management of content and modules) and criteria for modularizing documents and information of modules (e.g., granularity, size, principles for archiving of modules, e.g., storage of modules in databases)***
  Ressource: Professional: knowledge, Expert: knowledge / understanding
- ***Relationship between modularization, meta data and standardization***
  Ressource: Professional: knowledge, Expert: knowledge / understanding

Re-use of texts and/or graphics: (Internal/external) possibilities, problems and errors in case of re-use and generating documents

Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to

Meta data for Content Management, use, significance, typical meta data, variant management (e.g., using variables)

Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to

Relationships between modularization, meta data, re-use and archiving and publication

Ressource: Professional: knowledge, Expert: knowledge / understanding

Tools for creating content

Special-purpose tools are used for creating contents depending on the media types to be produced and the target formats.

Contents are integrated into an information product in the following media production process phase.

Component-based Content Management Systems

Software for Component-based Content Management Systems (CCMS)

Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to

Storage formats (XML, proprietary formats)

Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to

2.4. Mandatory area 4: Content creation

Professional: 7 coins (210 hours) / Expert: 8 coins (240 hours)

2.4.1 Topic 1: Content creation and sources

Information sources

Information from in-house company or external sources is needed in order to develop an information product.

It is necessary to know what sources there are and what information they can supply. The reliability of the relevant source and the quality of its information must be estimated.

As a result of this process step, the sources which are available for acquiring information are known.

Higher-level information

Determining and specifying the higher-level themes for which information needs to be obtained (e.g., information from a proprietary editorial guide, legal requirements, norms, standards, product compliance)
Ressource: Expert: knowledge / understanding, Expert: be able to

Product-specific information

Determining and specifying the product-specific themes for which information needs to be obtained (e.g., technology, product, application, risks, safety aspects)
Ressource: Expert: knowledge / understanding, Expert: be able to

Internal or external sources

Potential internal and external information sources for Technical Communication
Ressource: Expert: knowledge / understanding

Defining and identifying fundamental and special information sources and information suppliers (e.g., Product Managers, engineers, developers) for various contents (e.g., functional use, operator control and troubleshooting of functions)
Ressource: Expert: knowledge / understanding, Expert: be able to

Determining exploitable information sources, e.g., independent product usage, product training courses, available information (e.g., specifications, developers' documents, suppliers, archives, databases, flyers, catalogs, company brochures)
Ressource: Expert: knowledge / understanding, Expert: be able to

Criteria for distinguishing between confidential and non-confidential information and for assessing sources, their reliability (e.g., relevance, up-to-dateness) and information quality
Ressource: Expert: knowledge / understanding

Acquisition and selection of information

The information that is used as the basis for creating content can be obtained by using various methods. In order to design this effectively and efficiently, an implementation process must be planned and organized and the technologies that are used for this purpose must be made available.

Information thus acquired must be assessed for its relevance and selected accordingly.

This process step produces the information needed for content creation.

Organizational aspects

Information acquisition processes and process steps (e.g., push or pull)
Ressource: Expert: knowledge / understanding, Expert: be able to

Information acquisition processes in case of internal and/or external information suppliers, at interfaces between departments and between various areas of responsibility and/or positions
Ressource: Expert: knowledge / understanding, Expert: be able to

- ***Technologies for delivering and acquiring information (e.g., ERP systems, CMS, Wiki, file and server systems, email)***
  Ressource: Expert: knowledge / understanding

Methods

- ***Information acquisition (e.g., online, paper-based, by phone, face-to-face)***
  Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to
- ***Problems encountered in acquiring information (e.g., time management, information availability) and possible strategies to solve them***
  Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to
- ***Questioning strategies and types of questions (e.g., open, closed, "W" questions) for information acquisition objectives***
  Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to
- ***Information acquisition follow-up (e.g., structuring of results, e.g., by using mind mapping), filing and archiving***
  Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to

Selection of information

- ***Selection of information (e.g., use cases, customer journey)***
  Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to
- ***Criteria for preparing information (e.g., perspective, depth of information, degree of detail)***
  Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to
- ***Preparing information (e.g., selection, assessment, weighting)***
  Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to

2.4.2 Topic 2: Text and tables

Content presentation (text and tables)

The intelligibility, acceptance and fitness for purpose of information products depend largely on the way in which their content is presented. Information products with a consistent look and uniform structure have a positive impact on users and also improve the effectiveness and efficiency with which information can be developed.

Information products can contain various types of media, e.g., graphics or audio.

A design and deployment concept in which the main underlying conditions and targets are defined must be created for each type of media. These definitions are valid for several information products as a rule. An editorial guide is a frequent form of such stipulations.

The content presentation concept defines the design of the information product in terms of media.

- Text design concept
  - ***Types of fonts and font families (e.g., depending on the publication media and output devices, information-conveying function, legibility, readability)***
    Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to
  - ***Micro and macro typographical design possibilities (e.g., print space, font size, line width, line spacing, kerning, e.g., depending on the publication media and output devices, information-conveying function, legibility)***
    Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to
  - ***Visual and graphical means of emphasizing text (e.g., color), methods of visualizing text structures and markup conventions (e.g., displaying links), e.g., depending on publication media and output devices, information-conveying function, legibility***
    Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to

- Table concept
  - ***Types of tables***
    Ressource: Professional: knowledge, Expert: knowledge / understanding
  - ***Creating and incorporating tables: Design principles, design elements, concepts and setup (e.g., depending on output devices, information-conveying function, legibility)***
    Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to

- Layout concept
  - ***Types of layout (e.g., depending on publication media and output devices)***
    Ressource: Professional: knowledge, Expert: knowledge / understanding
  - ***Page composition and page layout: Design features, design principles, design elements, concept and design layout (e.g., depending on publication media and output devices)***
    Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to
  - ***Technical production aspects that layout must take into account***
    Ressource: Professional: knowledge, Expert: knowledge / understanding

- Concepts for safety notes and warning messages
  - ***Safety notes and warning messages***
    Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding,

Expert: be able to

- ***Creating and incorporating safety notes and warning messages: Design principles, design elements, concept and composition***

  Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding,

  Expert: be able to

- ***Prohibition symbols, warning symbols and mandatory action symbols***

  Ressource: Professional: knowledge, Expert: knowledge / understanding

- ***Standards for safety notes and warning messages (e.g., ANSI Z535, tekom Guide to Safety Notes and Warning Messages)***

  Ressource: Professional: knowledge, Expert: knowledge / understanding

- ***Danger levels and signal words for danger levels, international standardization of signal words and danger levels, pictograms for danger levels in accordance with specific standards (e.g., IEC/EN 82079-1, ANSI series of standards)***

  Ressource: Professional: knowledge, Expert: knowledge / understanding

Content creation (text and tables)

The contents of the information product are assembled from the procured, selected information based on the concept development approach adopted. The created contents must take into account the specific requirements imposed by the type of media used. Knowledge concerning information processing and imparting knowledge is taken into account.

The contents for the information product that is to be created are available as a result of content creation.

Basic principles of information processing and imparting knowledge

- ***Information processing model and cognitive conditions (e.g., mental models; perception and assimilation; working memory; prior knowledge; motivation)***

  Ressource: Professional: knowledge, Expert: knowledge / understanding

- ***Text processing levels: basal perception (assimilation), semantic-syntactic processing (coherence), collaborative processing (understanding and prior knowledge), reductive processing (selection), reconstructive processing (use of knowledge), reading modes***

  Ressource: Professional: knowledge, Expert: knowledge / understanding

- ***Basic principles of visual perception and processing (pre-attentive, attentive, collaborative and reconstructive processing, Gestalt laws)***

  Ressource: Professional: knowledge, Expert: knowledge / understanding

- ***Theories and explanatory approaches to intelligibility, readability, legibility. Communication theories, e.g. Common Ground Theory of Communication, Grice's conversation maxims, qualitative intelligibility models (e.g., Hamburg intelligibility model, intelligibility dimensions according to Groeben) and associated problems and recommendations for improving and optimizing texts***

  Ressource: Professional: knowledge, Expert: knowledge / understanding

- ***Factors that influence the understanding of information: information-product related factors at various levels, e.g., structural, word, sentence and text level, images, medium (e.g., information density) and target-group related factors (e.g., prior knowledge)***

  Ressource: Professional: knowledge, Expert: knowledge / understanding

- ***Criteria for assessing intelligibility, readability, legibility of contents (e.g., text coherency, conceptual network, rhetorical structure)***
  Ressource: Professional: knowledge, Expert: knowledge / understanding, Expert: be able to
- ***Methods of measurement for assessing intelligibility, readability, legibility (e.g., legibility and intelligibility measures)***
  Ressource: Professional: knowledge, Expert: knowledge / understanding, Expert: be able to
- ***Degrees of difficulty of texts and factors that influence the difficulty of texts***
  Ressource: Professional: knowledge, Expert: knowledge / understanding
- ***Basic principles of instruction design, e.g., integrating psychology of learning or didactic aspects into communicative functions (e.g., step-by-step instructions, concept)***
  Ressource: Professional: knowledge, Expert: knowledge / understanding, Expert: be able to

Text creation

- ***Special features of texts that convey information and instructions: Linguistic style in case of information products and differentiation from other types of linguistic styles (e.g., colloquial language, marketing language, technical languages, journalistic language)***
  Ressource: Professional: knowledge, Expert: knowledge / understanding
- ***Orthography in accordance with spelling rules***
  Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to
- ***Syntactic and grammatical rules and language development (e.g., sentence construction, declensions, conjugation, punctuation)***
  Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to
- ***Basic principles of semantics and word formation methods and principles, parts of speech***
  Ressource: Professional: knowledge, Expert: knowledge / understanding
- ***Fundamental rules of linguistic design for information-conveying text, e.g., depending on design of headings, linkage to prior knowledge, choice of words, word formation, terminological consistency, sentence formation, sentence relationships, text coherence, use of deixis (using words to point at things), descriptions of actions and instructions for actions, use of layout elements and emphasis, cognitive (pre-) structuring***
  Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to
- ***Intelligible and/or barrier-free and translation-oriented authoring (e.g., guidelines, rules of grammar, spelling rules, rules regarding text content)***
  Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to
- ***Company-specific writing rules***
  Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to

Creating tables

Preparing information for tables

Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to

Integrating tables into information products

Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to

Creating safety notes and warning messages

Creating, designing and formulating safety notes and warning messages in accordance with the latest standards and technology, including in-house specifications and standards

Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to

Implementing the results of a hazard analysis

Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to

Creating overarching and context-specific safety notes and warning messages (general and specific)

Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to

Placing of safety notes and warning messages in the text and in the information product

Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to

Tools for creating contents (text and tables)

Special-purpose tools are used for creating contents depending on the media types to be produced and the target formats.

Contents are integrated into an information product in the following media production process phase.

Text editors

Software for creating text

Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to

DTP programs

Software for desktop publishing

Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to

Storage formats (XML, proprietary formats)

Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding,

Expert: be able to

Automation possibilities

Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to

Tools for generating PDF files

Software for creating PDF files

Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to

Help Authoring Tools (HAT)

Software for creating online Help

Ressource: Expert: knowledge / understanding, Expert: be able to

Tools for content versioning, including administration of roles and rights during software development

Ressource: Expert: knowledge / understanding, Expert: be able to

Storage formats (XML, proprietary formats)

Ressource: Expert: knowledge / understanding

2.4.3 Topic 3: Graphics and images

Concept: Content presentation (graphics and images)

The intelligibility, acceptance and fitness for purpose of information products depend largely on the way in which their content is presented. Information products with a consistent look and uniform structure have a positive impact on users and also improve the effectiveness and efficiency with which information can be developed.

Information products can contain various types of media, e.g., graphics or audio.

A design and deployment concept in which the main underlying conditions and targets are defined must be created for each type of media. These definitions are valid for several information products as a rule. An editorial guide is a frequent form of such stipulations.

The content presentation concept defines the design of the information product in terms of media.

Graphics concept

Types of graphics (e.g., 2D and 3D graphics, illustrations, dimensioned drawings, raster images, exploded drawings, vector graphics, pixel images, pictograms, symbols, icons)

Ressource: Professional: knowledge, Expert: knowledge / understanding

Creating and incorporating graphics: Design principles (e.g., image complexity, visual organization, spatial representation, attracting attention and visual evaluation, visual representation of actions, text-image relation, alphanumeric cross-references (e.g., legends), labeling), design elements (e.g., use of color, color scheme, line width, visibility of parts), design and composition (e.g., image density, degree of detail), e.g., depending on publication media and output devices, function, intelligibility

Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to

Possible ways of showing information graphically (e.g., by schematic diagrams, charts, drawings, symbols) and various types (e.g., types of charts)

Ressource: Professional: knowledge, Expert: knowledge / understanding

Creating and incorporating graphical representation of information: Design principles, design elements, concepts and setup (e.g., depending on output devices, function, intelligibility, legibility)

Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to

Possible ways of presenting data (e.g., tables, diagrams) and various types (e.g., types of diagrams)

Ressource: Professional: knowledge, Expert: knowledge / understanding

Creating and incorporating represented data (e.g., tables, diagrams): Design principles, design elements, concepts and setup e.g., depending on output devices, function, intelligibility, legibility

Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to

Visual sign systems (e.g., pictograms, iconic signs, indexical signs, symbolic signs, hybrid forms)

Ressource: Professional: knowledge, Expert: knowledge / understanding

Creating and incorporating visual sign systems: Design principles, design elements, concepts and setup (e.g., depending on culturally-specific factors, function, intelligibility, legibility)

Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to

Media-dependent file formats for graphics and illustrations as well as conversion of formats

Ressource: Professional: knowledge, Expert: knowledge / understanding

Image concept

Types of images (e.g., photos, screenshots)

Ressource: Professional: knowledge, Expert: knowledge / understanding

Creating and incorporating images: Design principles, design elements, concepts and setup (e.g., depending on output devices, function, intelligibility, legibility)

Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to

Content creation (graphics and images)

The contents of the information product are assembled from the procured, selected information based on the concept development approach adopted. The created contents must take into account the specific requirements imposed by the type of media used. Knowledge concerning information processing and imparting knowledge is taken into account.

The contents for the information product that is to be created are available as a result of content creation.

1 Creating graphics

- ***Setup parameters (e.g., resolution) for incorporating illustrations depending on the publication medium***
  Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to
- ***Processing of image data, data transfer (e.g., CAD, construction data), storage***
  Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to

1 Creating images

- ***Photographic parameters for creating images (e.g., cropping, perspective, storage format, color spaces (e.g., RGB, CMYK), exposure, lighting, resolution)***
  Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to
- ***Screenshots (e.g., cropped images, storage, color spaces (e.g., RGB, CMYK), resolution)***
  Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to

Tools for creating content (graphics and images)

Special-purpose tools are used for creating contents depending on the media types to be produced and the target formats.

Contents are integrated into an information product in the following media production process phase.

1 Graphics and image editors

- ***Software for editing graphic and image files and their basic functions (e.g., color modification, cropping, exposing, masking, preparation for transfer to publication systems)***
  Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to

1 Tools for recording screenshots and screen sequences

Software for producing screenshots and screen recordings and their basic functions and functional principles

Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to

2.4.4 Topic 4: Integration and editing

Integration of content

An information project may comprise content originating from in-house and/or external sources. These contents must be edited and integrated in accordance with logical, content-related conceptual principles in order to achieve consistent presentation.

This process step produces all the contents for the information product in accordance with the requirements and conceptual specifications for media production.

In-house documentation

Allocating contents to content types

Ressource: Expert: knowledge / understanding, Expert: be able to

Composing contents in accordance with a given structure

Ressource: Expert: knowledge / understanding, Expert: be able to

Supplier's documentation

Providing suppliers with necessary standards, templates and information

Ressource: Expert: knowledge / understanding, Expert: be able to

Acceptance of supplier's documentation and integration into the information product (e.g., use as part of information product or after use or conversion)

Ressource: Expert: knowledge / understanding, Expert: be able to

Service provider's documentation

Providing service providers with necessary standards, templates and information

Ressource: Expert: knowledge / understanding, Expert: be able to

Approval of service provider's documentation and integration into the information product (e.g., use as part of information product or after use or conversion)

Ressource: Expert: knowledge / understanding, Expert: be able to

Certificates and declarations

Integrating certificates, legal notices and requisite declarations into the information product (e.g., imported into the authoring system, use as information product or conversion to a CI-compliant layout)

Ressource: Expert: knowledge / understanding, Expert: be able to

2.4.5 Topic 5: Quality assurance

Quality assurance for content of the information product

Created contents must undergo Quality Assurance, e.g., by checking

- Text, presentation and structure,
- Content-related and factual correctness,
- Compliance with design and editing specifications,
- Information's consistency with the product,
- Eliminated noise,
- The fact that external contents match the requirements defined from the outset.

Quality Assurance results in approved content which is suitable for use in the media production process.

Basic principles of Quality Assurance

Quality Assurance and Quality Management for information products, quality criteria, benefits (e.g., for translation, cost savings) and possible effects of inadequate Quality Assurance
Ressource: Expert: knowledge / understanding, Expert: be able to

Quality problems in Technical Communication and their causes (e.g., translation before completion of source text) and solutions
Ressource: Expert: knowledge / understanding, Expert: be able to

Improving quality by standardization (e.g., process standardization, editorial guides) and making Quality Assurance easier
Ressource: Expert: knowledge / understanding, Expert: be able to

Defining information having particular relevance which is subject to more stringent Quality Assurance measures (e.g., safety notes and warning messages, hazardous substances)
Ressource: Expert: knowledge / understanding, Expert: be able to

Reviews (e.g., dual verification, checklists, subject matter experts) and tools for technical content-related approval
Ressource: Expert: knowledge / understanding, Expert: be able to

Continuous improvement process (e.g., lessons learned)
Ressource: Expert: knowledge / understanding, Expert: be able to

Quality Assurance for text, illustrations and structure

Checking criteria for copy editing and review jobs
Ressource: Professional: knowledge, Expert: knowledge / understanding

Possibilities and limits of copy editing (e.g., elimination of ambiguities)
Ressource: Professional: knowledge, Expert: knowledge / understanding

Structural checking
Ressource: Professional: knowledge, Expert: knowledge / understanding, Expert: be able to

- ***Checking of content and text (e.g., correct spelling, grammar, style, terminology)***
  Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to
- ***Checking of other editing tasks and project-specific requirements (e.g., target group)***
  Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to
- ***Checking of presentation of contents (e.g., tables, graphics, images) and relationships between different contents***
  Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to

Checking content is factually correct

- ***Content-related checking (e.g., text, graphics, data, tables) for content-related approval***
  Ressource: Expert: knowledge / understanding
- ***Content-related review and approval: Procedure, timing and qualification (e.g., developers, experts)***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Forwarding an information product for content-related approval (e.g., as a commentable PDF)***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Checking of other design tasks and project-specific requirements (e.g., target group)***
  Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to

Supplier's documentation

- ***Formal checking of supplier's documentation, feedback***
  Ressource: Expert: knowledge / understanding, Expert: be able to

Service provider's documentation

- ***Checking of service provider's documentation, approval and feedback***
  Ressource: Expert: knowledge / understanding, Expert: be able to

Certificates and declarations

- ***Checking of certificates and declarations (e.g., presence and correct assignment) and approval***
  Ressource: Expert: knowledge / understanding, Expert: be able to

Test

- ***Comparison of product and product information***
  Ressource: Expert: knowledge / understanding, Expert: be able to

- *Checking the information product (e.g., functional tests, field test, usability)*
  Ressource: Expert: knowledge / understanding, Expert: be able to
- *Forms of information product certification and approval by testing institutes*
  Ressource: Expert: knowledge / understanding

Approval

- *Criteria for content-related checking for approving an information product*
  Ressource: Expert: knowledge / understanding
- *Criteria for formal checking for approving an information product*
  Ressource: Expert: knowledge / understanding
- *Organizing content-related and formal approvals*
  Ressource: Expert: knowledge / understanding, J_Können
- *Organizing sequential approval processes/parallel approval processes*
  Ressource: Expert: knowledge / understanding, J_Können

2.4.6 Topic 6: Media production for print media

Print media

Print media in the literal sense are hardcopy printed materials. However, because print production usually requires a PDF file as an intermediate step, here we will deal primarily with creating PDF files. PDF files can be used both for creating printed materials as well as for electronic publication. Depending on the printing technology used, certain requirements must be met during the media production of a printed product.

Aspects of typesetting and layout must be taken into consideration when producing a print medium. When creating a PDF, different parameters must be set depending on the display medium and output device. If the generated PDF file is delivered in electronic form, for instance, aspects such as copy protection and security as well as linking must be taken into account in the document.

This process step produces a PDF file which can be published electronically or non-electronically (e.g., printed).

Typesetting and layout (DTP)

- *Requirements placed on source data by printing methods (e.g., creation parameters, rasters)*
  Ressource: Professional: knowledge, Expert: knowledge / understanding
- *Basic principles of Desktop Publishing (DTP)*
  Ressource: Professional: knowledge, Expert: knowledge / understanding

PDF generation

- *Creating PDF documents*
  Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding,

Expert: be able to

Setup parameters for creating PDFs (e.g., resolutions, compression), embedded fonts and color separation in PDFs

Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding,

Expert: be able to

Requirements placed on graphics (e.g., resolutions) and integration of graphics (e.g., linking vs embedding) and integration of non-printable elements (e.g., animations, videos) in PDFs

Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding,

Expert: be able to

Linking of PDF pages within PDF documents, creating navigation aids

Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding,

Expert: be able to

Composing formulas and formula fields in PDFs

Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding,

Expert: be able to

Integration of signatures, copy protection and PDF security

Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding,

Expert: be able to

3. Elective Area 1

- Expert: 3 coins (90 hours)/ choose 1 out of 3

3.1. Specification path 1.1: Media development

3.1.1 Topic 1: Content presentation (concepts for media presentations)

Content presentation

The intelligibility, acceptance and fitness for purpose of information products depend largely on the way in which their content is presented. Information products with a consistent look and uniform structure have a positive impact on users and also improve the effectiveness and efficiency with which information can be developed.

Information products can contain various types of media, e.g., graphics or audio.

A design and deployment concept in which the main underlying conditions and targets are defined must be created for each type of media. These definitions are valid for several information products as a rule. An editorial guide is a frequent form of such stipulations.

The content presentation concept defines the design of the information product in terms of media.

Concepts for animations

- 1 ***Types of animation and animation techniques (e.g., 3D vs 2D, animated PDFs, vector graphics vs raster graphics, animation techniques)***
  Ressource: Expert: knowledge / understanding
- ***Developing animations: Design principles, design elements, concepts and composition (e.g., depending on function or intelligibility)***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Developing screenplays for producing animations and content of animations (scripts)***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- 2 ***Technical aspects of creating animations***
  Ressource: Expert: knowledge / understanding
- 2 ***File formats for animations (e.g., HTML5, UDF)***
  Ressource: Expert: knowledge / understanding

Concepts for films

- 1 ***Types of films (e.g., videos, utility films, screen recording)***
  Ressource: Expert: knowledge / understanding
- ***Creating films: Design principles, design elements (e.g., film design resources, degree of abstraction, choice of perspective, time sequencing, cutting, image sequences, aspects of visual credibility of individual representations), design and composition (e.g., depending on function or intelligibility)***
  Ressource: Expert: knowledge / understanding, Expert: be able to

Concepts for audio and sensory media

- 1 ***Audio and sensory media (e.g., voice output, sound, vibration, haptics (Braille))***
  Ressource: Expert: knowledge / understanding
- ***Creation of audio and sensory media: Design principles, design elements, concepts and composition (e.g., depending on function, output device or environment where used)***
  Ressource: Expert: knowledge / understanding, Expert: be able to

3.1.2 Topic 2: Content creation (media-specific)

Content creation

The contents of the information product are assembled from the procured, selected information based on the concept development approach adopted. The created contents must take into account the specific requirements imposed by the type of media used. Knowledge concerning information processing and imparting knowledge is taken into account.

The contents for the information product that is to be created are available as a result of content creation.

Creating animations

- *Creating animations, storage*
- *Rendering parameters (e.g., user interface, lighting)*

Creating films

Creating films (e.g., realizing screenplays, cropping, cutting, perspective, storage format, color spaces (e.g., RGB, CMYK), lighting, resolution)
Ressource: Expert: knowledge / understanding, Expert: be able to

Creating utility films (e.g., video)
Ressource: Expert: knowledge / understanding, Expert: be able to

Creating screen recordings
Ressource: Expert: knowledge / understanding, Expert: be able to

Creating audio and sensory contents

Creating audio media (e.g., MP3, text-to-speech engines, selecting and commissioning voice-over speakers)
Ressource: Expert: knowledge / understanding, Expert: be able to

Creating sensory media
Ressource: Expert: knowledge / understanding, Expert: be able to

3.1.3 Topic 3: Tools for creating content (media)

Tools for creating content

Special-purpose tools are used for creating contents depending on the media types to be produced and the target formats.

Contents are integrated into an information product in the following media production process phase.

Animation software

2 *Software for creating 2D and 3D animations*
Ressource: Expert: knowledge / understanding, Expert: be able to

Video editors

2 *Software for editing films and its basic functions (e.g., color modification, cropping, exposing, masking, preparation for transfer to publication systems)*
Ressource: Expert: knowledge / understanding, Expert: be able to

3.2. Specification path 1.2: Language and language management

3.2.1 Topic 1: Internationalization and localization

Internationalization and localization

Multilingual development of information products is increasingly gaining importance thanks to globalization. An information product is usually developed for various countries and must

therefore also usually be translated into several target languages. The country-specific requirements and cultural differences that are associated with an information product's different target markets will have been determined as part of a context analysis. A multilingualism concept and country-specific concepts are derived from this context analysis. Above all, legal requirements and safety-relevant aspects must be taken into consideration.

Concepts for internationalization and localization define cultural and country-specific aspects and, where applicable, country-specific versions of an information product.

Multilingualism concept

- ***Developing multilingual information products (e.g., special features of target languages, character sets, reading habits in different languages, organization of several languages in one information product, user interfaces for texts in electronic media)***
  Ressource: Expert: knowledge / understanding

Country-specific concepts

- ***Taking into account country-specific and/or cultural aspects when creating information products for different markets***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Criteria for assessing the cultural neutrality of an information product, e.g., depending on text and visual design (e.g., aspects that dictate the cultural neutrality of an information product or localization) and for assessing the need for cultural and/or country-specific versions***
  Ressource: Expert: knowledge / understanding
- ***Relevance and scope of taking country-specific requirements into account in Technical Communication (e.g., in case of contents to be described and safety notes)***
  Ressource: Expert: knowledge / understanding
- ***Realization of culturally and/or country-specific versions of information products***
  Ressource: Expert: knowledge / understanding, Expert: be able to

3.2.2 Topic 2: Terminology management

Methods

Methods are especially important in order to standardize contents, composition and creation processes. Established methods include, e.g., controlled language, document templates or DTDs. Various technologies and software-supported processes can assist implementation and application.

The particular methods that can be applied for particular information products are defined in the methodological concept.

- Information concerning standardization through terminology can be found in the separate description of the support process.

Terminology

--> Cross-reference to reference process

- 1 ! ***Terminology work***
  Ressource: Expert: knowledge / understanding
- 2 ! ***Basic principles of terminology and terminology work: Principles (e.g., semiotic triangle) and concepts, e.g., permitted and prohibited terms, classification of terms (e.g., synonyms, homonyms, antonyms)***
  Ressource: Expert: knowledge / understanding
- ! ***Principles for building a terminology database (e.g., concept-oriented rather than term-oriented)***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ! ***Building a multilingual terminology***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ! ***Extracting terminology***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ! ***Organization of terminology work (e.g., basic process for terminology work (e.g., terminology circle, approval, translation), roles and tasks, especially for Technical Communication)***
  Ressource: Expert: knowledge / understanding

3.2.3 Topic 3: Translation processes

Methods

Methods are especially important in order to standardize contents, composition and creation processes. Established methods include, e.g., controlled language, document templates or DTDs. Various technologies and software-supported processes can assist implementation and application.

The particular methods that can be applied for particular information products are defined in the methodological concept.

- Information concerning standardization through terminology can be found in the separate description of the support process.

Language technology

- 1 ! ***Basic principles of language technology***
  Ressource: Expert: knowledge / understanding, Expert: be able to

Arranging localization/translation

If contents are intended for different destination markets, the localization and/or translation process is initiated after the content has been developed. The main task is to manage this content so that all country-specific versions of the information product in all the necessary languages are made available at the same time the product is shipped.

Special software tools improve the effectiveness and efficiency of the translation process by, for example, only sending individual content modules for translation, re-using content that has already been translated or automatically performing pre-translation.

The contents are available in the required languages and country-specific versions as a result of this process step.

Localization

- ***Localization (e.g., distinctive cultural features, local standards and norms)***
  Ressource: Expert: knowledge / understanding
- ***Localization phases and workflow***
  Ressource: Expert: knowledge / understanding
- ***Organizing the localization process (e.g., as a parallel process)***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Initiating the localization process***
  Ressource: Expert: knowledge / understanding, Expert: be able to

Software localization

- ***Software localization***
  Ressource: Expert: knowledge / understanding
- ***Special features of software localization***
  Ressource: Expert: knowledge / understanding

Translation

- ***Translation***
  Ressource: Expert: knowledge / understanding
- ***Translation processes (functional translation, human translation, machine translation, review process)***
  Ressource: Expert: knowledge / understanding
- ***Translation process phases and workflow***
  Ressource: Expert: knowledge / understanding
- ***Organizing the translation process (e.g., as a parallel process, with examples)***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Initiating the translation process***
  Ressource: Expert: knowledge / understanding, Expert: be able to

Tools for creating content

Special-purpose tools are used for creating contents depending on the media types to be produced and the target formats.

Contents are integrated into an information product in the following media production process phase.

Linguistic software

Translation tools, Computer-Aided Translation (CAT), Translation Memories (TM), Machine Translation (MT)

Ressource: Professional: knowledge, Expert: knowledge / understanding

Software localization tools

Ressource: Professional: knowledge, Expert: knowledge / understanding

Localization and translation tools

Software used in the context of localization and translation (e.g., Translation Memory, Translation Management Systems (TMS), Machine Translation, software localization tools)

Ressource: Expert: knowledge / understanding

3.2.4 Topic 4: Using tools

Tools for creating content

Special tools are used for the creation of content, depending on the media types and target formats to be created.

In the following process phase of media production, the contents are integrated into an information product.

Linguistic software

Text checkers

Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to

Terminology databases and tools

Ressource: Professional: knowledge, Expert: knowledge / understanding

Translation tools, Computer-Aided Translation (CAT), Translation Memories (TM), Machine Translation (MT)

Ressource: Professional: knowledge, Expert: knowledge / understanding

Software localization tools

Ressource: Professional: knowledge, Expert: knowledge / understanding

Localization and translation tools

Software used in the context of localization and translation (e.g., Translation Memory, Translation Management Systems (TMS), Machine Translation, software localization tools)

Ressource: Expert: knowledge / understanding

3.3. Specification path 1.3: Information, Document and Content Management

3.3.1 Topic 1: Information Management

Information flow

There are various methods of creating an information product efficiently and, in doing so, taking into account the different requirements placed on an information product as well as differences between various information products: Component-based Content Management, Information Management and Document Management.

The concept for the information flow must ensure that content and documents can be easily found and re-used.

Information Management

- ***Information Management, principles and organization of Information Management (e.g., push and pull processes) depending on information needs in Technical Communication***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Setting up an information infrastructure for Technical Communication, information flows and information control in a company, e.g., media (e.g., email, circulation procedures, Wikis, intranet SharePoint®), principles (e.g., push and pull processes), procedures***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Availability of company-wide data sources (e.g., ERP, PIM or PDM systems, web CMS) and interfaces with Technical Communication***
  Ressource: Expert: knowledge / understanding
- ***Requirements placed on internal information sources***
  Ressource: Expert: knowledge / understanding

3.3.2 Topic 2: Document Management

Information flow

There are various methods of creating an information product efficiently and, in doing so, taking into account the different requirements placed on an information product as well as differences between various information products: Component-based Content Management, Information Management and Document Management.

The concept for the information flow must ensure that content and documents can be easily found and re-used.

Document Management

- ***Document Management, principles (e.g., archiving, working directories, storage scheme, file names, meta data, legality, storage concepts, storage structures, file naming and identification, meta data, versioning)***
  Ressource: Expert: knowledge / understanding, Expert: be able to

- ***Document guidance and distribution processes***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Document Management Systems***
  Ressource: Expert: knowledge / understanding

3.3.3 Topic 3: Archiving

Archiving

All the relevant project information, project results and information products must be archived in order to complete a project. Electronic archiving enables non-modifiable, long-term retention of electronic information. Various concepts and organizational schemes are adopted in order to ensure systematic archiving. Electronic archiving is assisted by various tools, the functions they provide and their components.

All the project results and project-relevant information are archived as a result of this process step.

Archiving management and organization

- ***Archiving concepts, setting up storage structures, use of meta data and versioning, archive administration***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Archiving processes, retrievability of archived documents***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Definition of roles and responsibilities, access rights***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Archiving of relevant contexts of documents (e.g., supplier's documents, developer's documents, third-party documents) and preservation of relationships between such documents***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Documentation for the archiving system, criteria for stipulating archiving periods***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Standards for electronic archiving (e.g., OAIS Reference Model for Open Archive Information System, ISO Standard 14721 and/or ISO Standard 14721:2012)***
  Ressource: Expert: knowledge / understanding, Expert: be able to

Basic technical principles of archiving

- ***Storage media***
  Ressource: Expert: knowledge / understanding
- ***Ease of access, access times and access security***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Data security and data recovery***
  Ressource: Expert: knowledge / understanding, Expert: be able to

- *Data security and audit reliability (inalterability of data)*
  Ressource: Expert: knowledge / understanding, Expert: be able to
- *Archiving systems*
  Ressource: Expert: knowledge / understanding
- *Tools and data formats for archiving*
  Ressource: Expert: knowledge / understanding, Expert: be able to

3.3.4 Topic 4: Component Content Management

Tools for creating content

Special-purpose tools are used for creating contents depending on the media types to be produced and the target formats.

Contents are integrated into an information product in the following media production process phase.

Component Content Management Systems (CCMS)

- *Differences between Component Content Management Systems and Document Management Systems*
  Ressource: Expert: knowledge / understanding
- *Pre-requisites for introducing a Component Content Management System*
  Ressource: Expert: knowledge / understanding
- *Process of introducing a Component Content Management System (phases, implementation and Change Management)*
  Ressource: Expert: knowledge / understanding
- *Work packages and tasks when introducing a Component Content Management System (e.g., selection of system and provider, producing functional specifications, in-house preparations, data migration, standardization specifications, system adaptations, process adaptation, system launch, training)*
  Ressource: Expert: knowledge / understanding
- *Benefits, advantages and disadvantages of Component Content Management Systems, conditions for efficient use, assessment of cost-benefit ratios*
  Ressource: Expert: knowledge / understanding
- *Tools for Component Content Management*
  Ressource: Expert: knowledge / understanding, Expert: be able to
- *Administration of Component Content Management Systems*
  Ressource: Expert: knowledge / understanding, Expert: be able to

4. Elective Area 2

- Expert: 2 coins (60 hours) / choose 1 out of 5

4.1. Specification path 2.1: Special media concepts

4.1.1 Topic 1: Media concept and design

Content presentation

The intelligibility, acceptance and fitness for purpose of information products depend largely on the way in which their content is presented. Information products with a consistent look and uniform structure have a positive impact on users and also improve the effectiveness and efficiency with which information can be developed.

Information products can contain various types of media, e.g., graphics or audio.

A design and deployment concept in which the main underlying conditions and targets are defined must be created for each type of media. These definitions are valid for several information products as a rule. An editorial guide is a frequent form of such stipulations.

The content presentation concept defines the design of the information product in terms of media.

Media concept

- 1 ***Selecting a media type (e.g., depending on content and restrictions imposed by technical formats, publication media and output devices and on basis of requirements placed on content creation as a result of the type of media used)***
  Ressource: Expert: knowledge / understanding
- 2 ***Selection of a publication medium and output device (e.g., depending on content, restrictions imposed by technical formats, requirements placed on contents as a result of the publication medium and/or output device and as a result of the target group or target group characteristics)***
  Ressource: Expert: knowledge / understanding
- 2 ***Requirements placed on information and data for integration into products and output devices (e.g., texts for software user interfaces, apps, user interface, mouseover information, tooltips), displays and other electronic indications (e.g., online Help)***
  Ressource: Expert: knowledge / understanding
- 2 ***Requirements when combining and integrating different media types into the publication medium***
  Ressource: Expert: knowledge / understanding

Media design

- 2 ***Basic principles of information processing, cognitive psychology and psychology of perception as a basis for design principles for representational and interactive types of media and for presenting information products***
  Ressource: Expert: knowledge / understanding
- 2 ***Design principles and design elements for presenting information products (e.g., for screen layout: typography for screens, screen division, arrangements, color scheme, integration of graphics, films, animations)***
  Ressource: Expert: knowledge / understanding, Expert: be able to

- ***Principles of interplay between various types of media (e.g., fundamental rules and aspects of text-image relation)***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Presenting and integrating various types of media (e.g., text, graphics, images, films, and animation, audio) in publication media and on output devices***
  Ressource: Expert: knowledge / understanding

4.1.2 Topic 2: Interaction and navigation

Content presentation

The intelligibility, acceptance and fitness for purpose of information products depend largely on the way in which their content is presented. Information products with a consistent look and uniform structure have a positive impact on users and also improve the effectiveness and efficiency with which information can be developed.

Information products can contain various types of media, e.g., graphics or audio.

A design and deployment concept in which the main underlying conditions and targets are defined must be created for each type of media. These definitions are valid for several information products as a rule. An editorial guide is a frequent form of such stipulations.

The content presentation concept defines the design of the information product in terms of media.

Concepts for interaction and navigation

- ***Interaction models and possible ways of establishing interactiveness***
  Ressource: Expert: knowledge / understanding
- ***Interactive elements***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Creation and incorporation of interactive elements (e.g., controls or buttons): Design principles, design elements, concepts and composition (e.g., depending on function, usability and navigation)***
  Ressource: Expert: be able to
- ***Navigation concepts (e.g., linking, topic structures)***
  Ressource: Expert: knowledge / understanding
- ***Creating and incorporating navigation concepts: Design principles, design elements, concepts and composition (e.g., depending on function, usability and navigation)***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Navigation elements***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Creating and incorporating navigation elements: Design principles, design elements, concepts and composition (e.g., depending on function, usability and navigation)***
  Ressource: Expert: knowledge / understanding, Expert: be able to

4.1.3 Topic 3: Accessibility

Access

Straightforward, quick access by the user is an essential prerequisite for effective, efficient use of an information product and its contents. This is why, before starting to create an information product, it is necessary to define how such access is to be made possible and what methods and technical options are to be used. It must also be ensured that the information product and its contents can be allocated to the respective product or product function in an error-free manner.

The concept for access defines accessibility and hence the usability of the information product.

Accessibility concept

- 2 ***Accessibility categories (e.g., technical accessibility, linguistic accessibility for target group)***
  Ressource: Expert: knowledge / understanding
- 2 ***Cognitive barriers and obstacles to information processing (e.g., users with reading and writing difficulties (dyslexia) or other specific learning difficulties)***
  Ressource: Expert: knowledge / understanding
- 1 ***Main areas of accessibility (e.g., presentation, content, structure and navigation)***
  Ressource: Expert: knowledge / understanding
- 1 ***Effects of various barriers, when, where and for whom there are barriers hindering the uptake of information products***
  Ressource: Expert: knowledge / understanding
- 2 ***Directives for barrier-free understanding and guidelines for optimization (e.g., basic principles of simplified language, for German/English; guidelines issued by the Simplified Language Network; European Directives for producing easily readable information for individuals with mental disabilities; Mencap's guidelines for accessible writing; Barrier-free Information Technology Act - BITV 2.0; Web Content Accessibility Guidelines (WCAG) 2.0)***
  Ressource: Expert: knowledge / understanding
- 1 ***Methods of achieving accessibility (e.g., simplified language, images, Braille, font size, zooming)***
  Ressource: Expert: knowledge / understanding, Expert: be able to

4.2. Specification path 2.2: Media production and delivery

4.2.1 Topic 1: Media production

Electronic media

Different electronic output devices place different requirements on information products. This must be taken into account at an early stage when information products are produced.

Meta data makes it possible to meet specific requirements and allows variant-controlled production. In contrast to print media, in the case of electronic media such as the Internet, PCs

and all mobile applications, it is possible to produce, transfer and record contents simultaneously.

The information product is available in an electronic version that the output device can use for display purposes as a result of this process step.

Output devices

- ***Requirements placed on contents for digital delivery (e.g., online Help, web pages, apps, displays, e-books, HTML5, PDF)***
  Ressource: Expert: knowledge / understanding
- ***Assembling contents already delivered digitally (e.g., online Help, web pages, apps, displays, e-books, HTML5, PDF)***
  Ressource: Expert: knowledge / understanding, Expert: be able to

Meta data

- ***Meta data for controlling publication***
  Ressource: Expert: knowledge / understanding
- ***Variant control using meta data***
  Ressource: Expert: knowledge / understanding, Expert: be able to

4.2.2 Topic 2: Publication and distribution

Printing

Various parameters must be specified for printing, e.g., paper qualities or formats. There are various methods and various manual processes for printing.

The distribution of a printed product must also take into account certain aspects of the packaging and assignment of information products to the product. This is especially important if there are different variants of the information product, e.g., country-specific.

The information product is available in printed form as a result of this process step.

Manufacturing process

- ***Specifications for printing (e.g., formats, paper qualities, bindings)***
  Ressource: Professional: knowledge, Expert: knowledge / understanding
- ***Printing methods (e.g., offset, digital printing, direct to plate)***
  Ressource: Professional: knowledge, Expert: knowledge / understanding
- ***Manual processes (e.g., finishing, collating)***
  Ressource: Professional: knowledge, Expert: knowledge / understanding

Packaging and delivery

- ***Packaging (e.g., electronic)***
  Ressource: Expert: knowledge / understanding
- ***Integration of supplier's documentation***
  Ressource: Expert: knowledge / understanding

Packaging in case of multilingual products
Ressource: Expert: knowledge / understanding

Version-specific packaging
Ressource: Expert: knowledge / understanding

Supplement insertion and delivery processes, allocation to the product, timing
Ressource: Expert: knowledge / understanding

Delivery of electronic media

When publishing information products using electronic media, the processes for integrating the electronic contents into the actual product or into the final output device are especially crucial. Aspects of information logistics must also be taken into account. This is why it is necessary to organize the processes through which and the principles on which information is distributed and how updating processes will run. The media used for storing the information product themselves entail specific requirements.

The information product is made available to the user in the product or by an electronic output device as a result of this process step.

Integration into products or output devices

Integrating information into products (e.g., texts for software user interfaces, apps, user interface, mouseover information, tooltips), displays and other electronic indications (e.g., online Help)
Ressource: Expert: knowledge / understanding

Interfaces with information integration
Ressource: Expert: knowledge / understanding

Storage media

Storage media used for Technical Documentation
Ressource: Professional: knowledge, Expert: knowledge / understanding

Storing publication media (e.g., on CD, DVD or memory sticks)
Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to

Information logistics

Distributing information (e.g., push and pull principles, distribution channels, request channels)
Ressource: Expert: knowledge / understanding, Expert: be able to

Updating processes (e.g., loading of updates) for contents of information products
Ressource: Expert: knowledge / understanding, Expert: be able to

4.2.3 Topic 3: Quality Control for delivery and distribution

Quality Control for delivery and distribution

Before the information product is delivered to the user and published, it needs to be checked for quality one more time. This Quality Assurance primarily concerns the quality of media production and the publication of the information product, not its quality in terms of content. In doing so, the fact that quality requirements and criteria for various electronic media and output devices differ from those for non-electronic media and output devices must be taken into account. Even after the information product has been delivered, its publication must be continuously checked and tested.

The information product can finally be published and distributed following on from this Quality Assurance.

Quality Control for print media

- ***Checking print quality***
  Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to
- ***Checking security requirements in the case of print media (e.g., audit reliability, protection against manipulation and copy protection)***
  Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to
- ***Checking the publication process is error free***
  Ressource: Professional: knowledge, J_Können, Expert: knowledge / understanding, Expert: be able to

Quality Control for electronic media

- ***Checking access by target groups and access rights***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Checking security requirements in case of electronic media (e.g., audit reliability, protection against manipulation and copy protection, protection against unauthorized distribution)***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Checking the publication process is error free***
  Ressource: Expert: knowledge / understanding, Expert: be able to

Quality Control for information products in output devices

- ***Testing that the information product can be installed and run in its target environment***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Functionality testing (e.g., forms, Help pages)***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Checking the presentation of content (e.g., completeness, presentation, links)***
  Ressource: Expert: knowledge / understanding, Expert: be able to

Checking the entire information product (e.g., line breaks, file size, completeness of product when displayed)
Ressource: Expert: knowledge / understanding, Expert: be able to

Continuously monitoring the information product

Organizing continuous monitoring
Ressource: Expert: knowledge / understanding, Expert: be able to

Identifying security vulnerabilities
Ressource: Expert: knowledge / understanding, Expert: be able to

Identifying copyright infringements
Ressource: Expert: knowledge / understanding, Expert: be able to

Checking licenses
Ressource: Expert: knowledge / understanding, Expert: be able to

4.3. Specification path 2.3: Programming methods and automation

4.3.1 Topic 1: Programming methods

Methods

Methods are especially important in order to standardize contents, composition and creation processes. Established methods include, e.g., controlled language, document templates or DTDs. Various technologies and software-supported processes can assist implementation and application.

The particular methods that can be applied for particular information products are defined in the methodological concept.

- Information concerning standardization through terminology can be found in the separate description of the support process.

Markup languages

Markup languages (e.g., XML, HTML)
Ressource: Expert: knowledge / understanding

Tagging methods (e.g., visual and logical tagging)
Ressource: Expert: knowledge / understanding, Expert: be able to

Data modeling using markup languages
Ressource: Expert: knowledge / understanding

Composition and components of markup languages (e.g., well-formedness, validity)
Ressource: Expert: knowledge / understanding

Connection between markup languages and the Internet
Ressource: Expert: knowledge / understanding

Standardized processing of markup languages
Ressource: Expert: knowledge / understanding

- ***Creating a publication using markup language data***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Document Type Definition (DTD)/schemas***
  Ressource: Expert: knowledge / understanding
- ***Cascading Style Sheets (CSS): Syntax, structure and rules***
  Ressource: Expert: knowledge / understanding
- ***Integration of scripts and macros (e.g., JavaScript)***
  Ressource: Expert: knowledge / understanding
- ***Security aspects of scripts and macros in media (e.g., JavaScript)***
  Ressource: Expert: knowledge / understanding
- ***Software for creating markup language data (editors)***
  Ressource: Expert: knowledge / understanding

Intelligent content delivery

- ***Multi-channel publishing***
  Ressource: Expert: knowledge / understanding
- ***Information modeling and system planning for Dynamic Content Delivery***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Meta data for Dynamic Content Delivery***
  Ressource: Expert: knowledge / understanding
- ***Interaction between various systems in case of multi-channel publishing (e.g., Component-based Content Management System (CCMS) and Translation Memory Systems (TMS))***
  Ressource: Expert: knowledge / understanding

Automation methods

- ***Automation of creation processes***
  Ressource: Expert: knowledge / understanding
- ***Automation of publication processes***
  Ressource: Expert: knowledge / understanding

4.3.2 Topic 2: Automated processes

Automation and programming

Automation processes can be used in order to simplify the production of media and speed it up. This is done by special-purpose programs. Here too, meta data plays an important role.

Automated processes or programmed electronic media are available as a result of this process step.

Print media

- ***Automated processes (control, e.g., XSL-FO; and for creating screenshots) for producing print media***
  Ressource: Expert: knowledge / understanding, Expert: be able to

Electronic output devices

Automated processes (control, e.g., XSL-FO; and for creating screenshots) for producing online documentation

Ressource: Expert: knowledge / understanding, Expert: be able to

Programming

Basic knowledge of structure, characteristics and use of programming languages and markup languages (e.g., HTML, HTML5, XML, JavaScript, Visual Basic, CSS) for producing media

Ressource: Expert: knowledge / understanding, Expert: be able to

Programming in order to create electronic media for information products

Ressource: Expert: knowledge / understanding, Expert: be able to

Quality Assurance for programming (e.g., XML validity)

Ressource: Expert: knowledge / understanding, Expert: be able to

4.4. Specification path 2.4:Planning

4.4.1 Topic 1: Information creation planning

Information creation planning

The requirements placed on every information product differ in each project. This is why planning the creation of information for individual detailed tasks must be set up specifically. This includes defining how the process is organized and which resources are needed in order to achieve implementation.

It includes defining how the process is organized, which resources are needed in order to achieve implementation, what knowledge the executing employees must have, which interfaces must be taken into account and which requirements have to be met in order for all the individual substeps in the information development process to run smoothly. The basis of planning is usually provided by empirical values obtained from previous projects.

The entire information development process (time, tasks, contents and workflow) is devised in advance during information creation planning.

Content planning

Specifying and selecting information products (for the various phases of a product's life-cycle)

Ressource: Expert: knowledge / understanding, Expert: be able to

Specifying and selecting media for the target group

Ressource: Expert: knowledge / understanding, Expert: be able to

Specifying all the information that accompanies a product (e.g., for documentation summary, for delivery list)

Ressource: Expert: knowledge / understanding, Expert: be able to

Specifying information products for product variants

Ressource: Expert: knowledge / understanding, Expert: be able to

- ***Creating a content plan (e.g., list, structure)***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Specifying and selecting presentation mode and degree of detail***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Defining the concrete requirements placed on external information products (e.g., supplier's documentation) and contract design***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Planning contents of product information that can be created in-house***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Integration planning for various internal (possibly external) content or information products (e.g., integration of supplier's documentation)***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Taking requisite explanations, certificates and approvals into account***
  Ressource: Expert: knowledge / understanding, Expert: be able to

Implementation planning

- ***Planning the implementation of the individual results of a context analysis***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Defining the concrete content concept***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Defining the concrete media concept***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Media-specific production planning (e.g., illustrations, films, animations)***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Planning the implementation of international requirements***
  Ressource: Expert: knowledge / understanding, Expert: be able to

Creation planning

- ***Specifying the volumes created and resource planning***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Production planning for information products***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Planning of procurement and commissioning of service providers (e.g., media developers, terminology translators, graphic artists, TD service providers)***
  Ressource: Expert: knowledge / understanding, Expert: be able to

- ***Time and task scheduling (e.g., work packages, schedule for, e.g., authoring tasks, supplier's documentation, service provider's documentation, creating graphics and media, translation tasks)***
  - ***Process design, interfaces and task coordination***
    Ressource: Expert: knowledge / understanding, Expert: be able to
  - ***Planning liaison with support processes (e.g., translation, terminology)***
    Ressource: Expert: knowledge / understanding, Expert: be able to

- ***Handling confidential information***
  Ressource: Expert: knowledge / understanding
- ***Planning the use of tools***
  Ressource: Expert: knowledge / understanding, Expert: be able to

Information procurement planning

- ***Planning procurement of information (e.g., objectives, questionnaire, location, interlocutors, materials, preparation)***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Planning the information procurement process: Process steps and planning variables (e.g., scheduling, effort planning)***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Defining the requirements placed on sources within the company (e.g., on data formats, template) and documents***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Determining requirements resulting from open-source software***
  Ressource: Expert: knowledge / understanding, Expert: be able to

4.4.2 Topic 2: Project Management

Project Management

Project Management involves organizing, executing and monitoring the information product's development process and process steps, working tasks and resources.

This is where project details are specified and planned. The required Project Management techniques and tools are also described.

The result of Project Management highlights the scope and effort required for the information product creation project and is implemented in subsequent phases.

Project planning

- ***Project context analysis and definition***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Task and performance planning***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Estimated effort and resource planning***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Cost planning***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Defining and monitoring key project figures***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Project risk planning***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Project documentation***
  Ressource: Expert: knowledge / understanding, Expert: be able to

- ***Workflow, deadline and resource planning***
  Ressource: Expert: knowledge / understanding, Expert: be able to

Project execution and controlling

- ***Project controlling tasks, methods and procedures***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Assessment and prioritization***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Determining and managing critical paths***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Time management in products and typical "time guzzlers"***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Measures in the event of deviation from plans***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Coordinating tasks and activities and information management within the project and with the world outside the project***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Project communication***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Change Management methods***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Risk Management methods***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Methods of managing interfaces and deliveries***
  Ressource: Expert: knowledge / understanding, Expert: be able to

Project reporting

- ***Defining and monitoring key project figures***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Target/actual analysis***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Preparing status reports***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Project presentation (e.g., to Steering Committee and outsiders)***
  Ressource: Expert: knowledge / understanding, Expert: be able to

Project Management tools and techniques

- ***Project Management models (e.g., waterfall model, agile models, V-model)***
  Ressource: Expert: knowledge / understanding
- ***Project Management techniques (e.g., Gantt chart)***
  Ressource: Expert: knowledge / understanding, Expert: be able to
- ***Requirements placed on a project management tool***
  Ressource: Expert: knowledge / understanding

Project Management tools (e.g., MS Excel®, MS Project®, Mindjet MindManager®)
Ressource: Expert: knowledge / understanding, Expert: be able to

4.5. Specification path 2.5: Observation and feedback evaluation

4.5.1 Topic 1: Feedback

Feedback

Feedback includes all statements by various users concerning the information product. Feedback sources can be in-house or outside the company. Systematic processes can be introduced in order to obtain feedback. In contrast to when an information product is evaluated in a targeted manner, e.g., using a questionnaire, feedback is usually non-systematic and unstructured. This is why the meaningfulness and relevance of feedback must always be questioned.

Feedback provides information that can be analyzed during context analyses with regard to scope for improving the information product.

Sources of feedback

Organizing feedback processes
Ressource: Expert: knowledge / understanding, Expert: be able to

External feedback (e.g., call centers, after-sales service, service engineers, Help hotline)
Ressource: Expert: knowledge / understanding, Expert: be able to

Feedback from internal business units (e.g., training centers, trainers, after-sales service, service engineers)
Ressource: Expert: knowledge / understanding, Expert: be able to

Analysis of feedback

Systematic evaluation of feedback (e.g., customers' problems, complaints, customer feedback or internal feedback on the information product)
Ressource: Expert: knowledge / understanding, Expert: be able to

Assessing feedback and its meaningfulness
Ressource: Expert: knowledge / understanding, Expert: be able to

4.5.2 Topic 2: Evaluation

Evaluation

The information product is evaluated systematically. This produces knowledge that can be used in order to determine possible ways of improving information products and responding to new or changed requirements. There are various methods of obtaining evaluation, e.g., surveys or tests. The use of a particular method depends on the relevant objective and the issues being investigated by the evaluation.

Evaluation results provide information that can be analyzed during context analyses with regard to scope for improving the information product.

Usability methods

- *Usability tests and survey methods (e.g., thinking aloud, eye-tracking, questionnaires, observation)*
  Ressource: Expert: knowledge / understanding
- *Typical problems and risks when carrying out a usability test (e.g., representativeness) and solutions (e.g., selection of test subjects)*
  Ressource: Expert: knowledge / understanding
- *Quality criteria for usability tests (e.g., quality criteria: reliability, validity, objectivity, representativeness, economy)*
  Ressource: Expert: knowledge / understanding

Customer and user surveys

- *Survey methods (e.g., interviews, written questionnaires)*
  Ressource: Expert: knowledge / understanding
- *Design, drafting and carrying out a survey (e.g., producing a questionnaire, sources of errors in case of surveys, quality criteria, ways of improving response rates)*
  Ressource: Expert: knowledge / understanding
- *Typical problems and risks when carrying out a survey and solutions (e.g., ways of improving response rates)*
  Ressource: Expert: knowledge / understanding
- *Analysis and evaluation of surveys, analysis of data using descriptive methods*
  Ressource: Expert: knowledge / understanding

User observation and self-test

- *User observation and evaluation of meaningfulness*
  Ressource: Expert: knowledge / understanding, Expert: be able to
- *Systematic observation and recording of observations*
  Ressource: Expert: knowledge / understanding, Expert: be able to
- *Sources of errors in case of observations and self-tests*
  Ressource: Expert: knowledge / understanding

Tests and reports

- *Expert reports*
  Ressource: Expert: knowledge / understanding, Expert: be able to
- *Public testing methods and document prizes (e.g., Stiftung Warentest [German consumer safety group], consumer tips, tekom Document Prize, STC Prize)*
  Ressource: Expert: knowledge / understanding

4.5.3 Topic 3: Web monitoring

Web monitoring

Targeted web monitoring can be used to gather information regarding how the information product is used. In contrast to other observation processes, information is not actively

obtained from users, rather from the Internet and is used to draw conclusions about usage behavior and user acceptance. This is made possible by collecting web statistics for example.

Web monitoring results provide information that can be analyzed during context analyses with regard to scope for improving the information product.

Social media and Internet feedback

Social media and web monitoring in order to observe and gather feedback about information products
Ressource: Expert: knowledge / understanding, Expert: be able to

Web statistics

Web monitoring methods (e.g., click rates, ranking, rating)
Ressource: Expert: knowledge / understanding, Expert: be able to

4.5.4 Topic 4: Results of observation of information product

Results of observation of information product

As part of the context analysis, the way in which information products that have already been successfully developed and placed on the market and what scope there is for potential improvements are investigated. The results of monitoring the market for the information product must therefore be analyzed and taken into account when planning, designing and creating new information products.

Analysis of observation of the information product

Analysis and assessment of feedback and observations
Ressource: Expert: knowledge / understanding

Error culture in the company
Ressource: Expert: knowledge / understanding

Continuous improvement process

Continuous improvement processes (e.g., Deming Cycle, Lessons Learned, Kaizen)
Ressource: Expert: knowledge / understanding, Expert: be able to

Remedial and precautionary measures (including planning, responsibility, deadlines, implementation and monitoring)
Ressource: Expert: knowledge / understanding, Expert: be able to