

**CPRE Advanced Level**

# Task definition for the written assignment

Requirements Management  
- Specialist -

Version 2.0.0, July 2022

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# 1 Introduction

The goal of this written assignment is to prove that you:

- Know concepts and widespread processes in connection with managing requirements
- Can apply processes for managing requirements
- Can select processes for managing requirements for a specific context and tailor them to this context
- Can critically question and evaluate your own approach for managing requirements

For this purpose, you will outline characteristic aspects of requirements management from a real project in which you have participated in your own work environment and then reflect on them.

## 1.1 Scope of Work, Structure, and Assessment

Regarding the scope of the written assignment and the minimum percentage required to pass the examination, see the examination regulations -Advanced Level- (paragraphs 3 and 8.4).

The following table provides an overview of the expected structure of the written assignment. Some parts are mandatory. Exactly two of the six optional parts must be selected.

Section	Content	Mandatory/Elective	Max. Points
1	Project Context	Mandatory	10
2	Requirements Engineering and Requirements Management Process	Mandatory	20
3	Requirements Landscape	Mandatory	20
4	Attribute Schema	Mandatory	20
5	Evaluation and Prioritization	Select 2 of these 6 topics	2 x 20
6	Traceability		
7	Reporting		
8	Versioning		
9	Change Process		
10	Variant Management		
Max. points:			110 <sup>1</sup>

<sup>1</sup> Mandatory parts: 10+20+20+20 =70 points, elective parts: 2 x 20 = 40 points

Details of the content expected and the evaluation of this content are described in the following chapters for each section. Please note when formulating your written assignment that the contents must be understandable for an examiner who is not necessarily an expert in your application context.

## 1.2 Anonymisation and Confidentiality of the Contents

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The contents of the completed work must be made anonymous to a degree that the contents cannot be related to real people and/or companies. Specific company or personal names should be used only if this is absolutely necessary to understand the contents of the written assignment. Details on originality and confidentiality of the contents are set out in the examination regulations.

## 2 Expected Contents of the Individual Sections

The contents of the individual sections, as well as the criteria used to evaluate the contents, are described below. In most cases, the respective contents expected are described in list form. This list can be seen as a type of checklist. If further content is appropriate to achieve the evaluation goal, please detail this content as well. However, your description does not have to specifically replicate this list—unless you feel this is appropriate for individual sections.

### 2.1 Project Context (Mandatory Part)

#### Expected content in this section

Select a project from your own work environment in which you were actively involved in managing requirements. Describe here the distinctive aspects of this project—anonously if applicable (see Section 1.2).

State at least:

- What was the goal of the project considered (e.g., introduction of software, product development, etc.)?
- Which procedure model was used to implement the project (e.g., waterfall, scrum)?
- What was the scope of the project (duration and number of project participants)?
- Did the project take place within a single organization or did several different organizations or interest groups work on the project together?
- Who was the client (e.g., internal/external) and who was the contact person at the client?
- What were the roles within the project team?
- Which role did you take in this project?
- What were the particular challenges and risks in this project?

#### Evaluation criteria for this section

The description of the goal, the context, the organizational and technical complexity should produce a clear picture of the project. Furthermore, your role in the project should be clearly characterized.

## 2.2 Requirements Engineering and Requirements Management Process (Mandatory Part)

### 2.2.1 Requirements Engineering and Requirements Management Process Realized

#### Expected content in this section

In this section, describe the process used to elicit, document, check, negotiate, and manage requirements:

- Briefly describe the essential parameters of the process (time progression of the elicitation, level of detail, integration of changes, distribution of responsibilities), see also the syllabus, Section 9.2.
- Describe the main activities and responsibilities involved in the project in a RACI matrix. Limit yourself to a maximum of 10 activities.
- Briefly describe whether the requirements engineering process is monitored and controlled. If there is a monitoring/control system, please explain it briefly (e.g., which reports are used).

If tools (in the sense of the syllabus, Chapter 11) are used in the individual activities, these should be briefly described.

#### Evaluation criteria for this section

The following aspects should be clear:

- Who elicited requirements?
- Who documented requirements?
- Who checked requirements?
- Who negotiated requirements?
- Who managed requirements?
- How was this process monitored and controlled?
- There should also be a description of the tools used to support the elicitation, documentation, checking, negotiation, and management of requirements.

### 2.2.2 Evaluation of the Requirements Engineering and Requirements Management Process

#### Expected content in this section

Evaluate the process you experienced with respect to the following criteria:

- Did the process work well?
- Which characteristics of the project or project environment contributed to this?



- How do you substantiate your evaluation?
- You should also discuss whether the process you experienced corresponded to what was planned, and the reasons for any deviations that occurred.
- Should the process be changed in similar projects? If so, why? If not, why not?
- What should the changed/improved process look like?

#### Evaluation criteria for this section

The evaluation of the process and any suggestions for improvement are understandable. The answers show that the examinee can recognize and justify the strengths and weaknesses of any process experienced. Where appropriate, the examinee can also present suitable suggestions for improvement.

## 2.3 Requirements Landscape (Mandatory Part)

### 2.3.1 Requirements Landscape in the Project

#### Expected content in this section

In this section, describe your requirements landscape using a requirements information model (RIM). This should include in particular:

- Which particular requirement types are used and how can they be assigned to the three types of requirements from LE2.1?
- At what levels of abstraction are requirements documented?
- Which content abstractions are used for each abstraction level?
- How are the different classes of requirements documented?

#### Evaluation criteria for this section

The requirements landscape in your project is described in such a way that it can be understood. The specific situation in your project is classified according to the terms from LE2.

### 2.3.2 Evaluation of the Requirements Landscape

#### Expected content in this section

Evaluate the requirements landscape used in the project:

- Was the requirements landscape in your project chosen appropriately?
- Which aspects worked well?
- Which aspects turned out to be problematic?
- Should the requirements landscape used be reused in its current form in similar projects? If so, why? If not, why not?

- If you see potential for improvement: what should a changed/improved requirement landscape look like?



#### Evaluation criteria for this section

The evaluation of the requirements landscape and any suggestions for improvement are understandable. The answers show that the examinee can recognize and justify the strengths and weaknesses with regard to a specific project situation.

## 2.4 Attribute Schema (Mandatory Part)

### 2.4.1 Attribute Schema in the Project

In this section, document the attribute schema you used (e.g., as a table or information model). If the attribute schema was more extensive, please limit yourself to a maximum of 10 attributes, whereby you should concentrate on the attributes that are most relevant from your point of view.

Describe each attribute using the following information:

- Name of the attribute
- Meaning
- Application area (in terms of the requirements landscape you defined): artifacts according to Section 2.3 to which the attribute is applied
- Permitted values, if applicable, default value
- Mandatory field (yes/no)
- Goal which was/is being pursued with the attribute
- Who needs the attribute value and for what purpose?
- If applicable: dependencies between attributes
- Also, describe what motivated you to use this attribute schema
- For example, were different stakeholders taken into account and if so, which ones?
- Briefly outline the individual steps of your procedure for identifying the attribute schema

#### Evaluation criteria for this section

The examinee has described an appropriate number of attributes clearly and extensively using the required information. Furthermore, the examinee has clearly illustrated the method for choosing the attribute schema by briefly outlining the procedure for defining the schema.

## 2.4.2 Evaluation of the Attribute Schema

### Expected content in this section

Describe your experiences in connection with the definition and application of your current attribute schema:

- Were your goals reached with the attributes? Where were they reached, and where not?
- What particular challenges did the definition of the attribute schema entail?
- Were changes to the attribute schema necessary and if so, what was your experience of implementing the changes?
- If you made changes to the attribute schema, were the expected results achieved? If not, what could have been the reason for this?
- Is your attribute schema suitable as a reference schema for other projects? If so, justify your assessment. If not, explain why it is not suitable as a reference schema.
- In your opinion, are there any optimization possibilities with regard to the existing attribute schema? If so, explain them briefly. If not, explain why not.

### Evaluation criteria for this section

The reflection should show the extent to which the examinee has dealt with the attribute schema and whether their arguments are understandable and conclusive.

## 2.5 Evaluation and Prioritization (Elective Part)

### 2.5.1 Evaluation Criteria and Prioritization Techniques Used

#### Expected content in this section

Describe the evaluation criteria and prioritization techniques used. Limit yourself to a maximum of five (5) evaluation criteria and three (3) prioritization techniques:

- According to which criteria (e.g., costs or benefits) were the requirements evaluated?
- In which attributes was the evaluation documented?
- Which prioritization technique did you use?
- Why did you use this prioritization technique?

- Which roles were involved in the prioritization?
- At what point in time in the project did you perform the prioritization and why?
- Was prioritization supported by a tool?

#### Evaluation criteria for this section

The evaluation criteria are described and useful for the purpose of the prioritization. The prioritization technique(s) used is/are named and their use is described in an understandable way. The description clearly indicates where in the requirements engineering process the technique was performed and by which stakeholders.

## 2.5.2 Evaluation of the Use

#### Expected content in this section

Consider retrospectively whether the evaluation criteria and prioritization techniques used have led to the desired success and what challenges you had to face.

- Were the evaluation criteria used (in the sense of the syllabus LE4) sufficient to perform a suitable prioritization of requirements?
- Were the prioritization techniques used successful?
- What would you do differently in the future and what would you do in the same way?
- Also mention two prioritization techniques that you did not use in your project. Justify why these techniques were not used.

#### Evaluation criteria for this section

The reflection is understandable. Furthermore, the examinee shows that they can evaluate the usefulness of prioritization techniques dependent on the context.

## 2.6 Traceability (Elective Part)

### 2.6.1 Traceability in the Project

#### Expected content in this section

In this section, describe whether and how traceability was implemented in this project. Limit yourself to a maximum of 10 traceability relationships.

The following questions should be answered and justified as a minimum:

- What was the motivation (or reason) for implementing traceability in your project?
- Between which artifacts were traceability relationships created—and what types of relationships did you use (create a traceability model if applicable)?
- How was traceability documented (textual references, hyperlinks, requirements management tool, etc.)?
- Who was responsible for the documentation of which traceability relationships and how "well" and "completely" were the traceability relationships maintained?

#### Evaluation criteria for this section

The description should give a consistent overall picture of how traceability was used in the project to achieve the traceability goal. The purpose for which the traceability information is used should also be clear.

### 2.6.2 Effectiveness of the Traceability Strategy

#### Expected content in this section

Describe how good the planned traceability strategy was and how well traceability was implemented. The following questions should be answered and justified as a minimum:

- What was the documented traceability information ultimately used for? Was the actual traceability goal achieved? Why/why not?
- Were the relationships between the artifacts sufficient or would you have needed traceability relationships with other artifacts?
- Were the relationship types used sufficient or would you have needed more?
- Was the form of representation of the traceability relationships useful for the purpose or would you have preferred another form?
- Were there any deficits in the maintenance of traceability relationships and if so, how could they have been improved?

#### Evaluation criteria for this section

The evaluation of the traceability strategy and any suggestions for improvement are understandable. The answers show that the examinee has understood the concepts of traceability and can recognize and justify the strengths and weaknesses with regard to a specific project situation.

## 2.7 Reporting (Elective Part)

### 2.7.1 Project Reporting

#### Expected content in this section

In this section, describe up to five (5) central requirements-based reports used in your project. For each report, describe the following:

- ▶ Name of the report
- ▶ Stakeholders and their interests and goals of the above-mentioned reports
- ▶ Time of report generation
- ▶ Description of the report contents and their elicitation (e.g., attributes affected) or derivation (calculations, if applicable)
- ▶ Description of possible graphical presentation forms of reports

#### Evaluation criteria for this section

The reports are clearly described, along with their purpose, contents, and generation time(s).

### 2.7.2 Evaluation of the Reporting

#### Expected content in this section

In this section, evaluate the effectiveness of the reporting used:

- ▶ Were the goals of the reports achieved? If so, why? If not, why not?
- ▶ Did you make changes to the reporting during the project? If so, why? If not, why not?
- ▶ Would you use the same reports in other projects? If so, why? If not, why not? If applicable, which reports would have been useful?

#### Evaluation criteria for this section

The reflection should show the extent to which the examinee has dealt with reporting and whether their arguments are understandable and conclusive.



## 2.8 Versioning (Elective Part)

### 2.8.1 Versioning Strategy Implemented

#### Expected content in this section

In this section, describe the versioning strategy implemented:

- How were requirements and documents versioned in your project?
- Describe which states were allowed for a requirement, how the state transitions had to occur, and who was allowed to change the state of requirements artifacts.
- Was a requirements baseline created?
- What did the creation of a requirements baseline mean for the subsequent requirements management process (e.g., after a requirements baseline is created, changes are accepted only by means of a change management process)?

#### Evaluation criteria for this section

The versioning strategy implemented is clearly described.

### 2.8.2 Evaluation of the Versioning Strategy

#### Expected content in this section

Evaluate the versioning strategy implemented in the project:

- Was the versioning strategy chosen appropriately in your project?
- Which aspects worked well?
- Which aspects turned out to be problematic?
- Should the versioning strategy be reused in its current form in similar projects? If so, why? If not, why not?
- If you see potential for improvement: what should a changed/improved versioning strategy look like?

#### Evaluation criteria for this section

The evaluation of the versioning strategy and any suggestions for improvement are understandable. The answers show that the examinee can recognize and justify the strengths and weaknesses with regard to a specific project situation.



## 2.9 Change Process (Elective Part)

### 2.9.1 Change Process Realized

#### Expected content in this section

In this section, describe the change process for requirements that you experienced:

- What did the change process for requirements look like?
- Which roles and tasks were involved in the process?
- What types of requirement changes (corrective, adaptive, or exception changes) occurred during the project?
- How are the change requests and accepted change requests documented?
- Who decided, based on which criteria, to accept or reject change requests?
- Was a change impact analysis performed? If so, what was it like?
- Outline a rough quantity structure of the change requests in the project (e.g., X change requests per week, Y changes per Z requirements).

#### Evaluation criteria for this section

The change process realized for requirements is clearly described based on the above-mentioned points. There is a clear picture of how changes were handled in the project.

### 2.9.2 Evaluation of the Change Process

#### Expected content in this section

Evaluate the change process for requirements experienced in the project:

- Was the change process in your project chosen appropriately?
- Which aspects worked well?
- Which aspects turned out to be problematic?
- Should the change process in its current form be reused for requirements in similar projects? If so, why? If not, why not?
- If you see potential for improvement: what should a modified/improved change process look like?

#### Evaluation criteria for this section

The evaluation of the change process and any suggestions for improvement are understandable. The answers show that the examinee can recognize and justify the strengths and weaknesses with regard to a specific project situation.

## 2.10 Variant Management (Elective Part)

### 2.10.1 Variant Management Implemented

#### Expected content in this section

In this section, describe how variants were handled in your project. As a minimum, describe:

- At which points in your project did different variants exist?
- How were the variants documented? Is this form of documentation an explicit or implicit documentation of variability?
- What does the underlying feature model for variant management look like? Describe the feature model as an FODA model (according to LE 7.3). Limit yourself to a maximum of 10 features.

#### Evaluation criteria for this section

The variant management implemented in the project is described comprehensively. The specific implementation observed is classified with regard to the concepts described in LE 7.1. The feature model shows that the examinee can implement feature modeling.

### 2.10.2 Evaluation of the Variant Management

#### Expected content in this section

Evaluate the variant management implemented in the project:

- Was the handling of variants appropriate to the challenges of the project?
- What were the strengths and weaknesses of the chosen procedure in variant management, and what were the strengths and weaknesses of the chosen form of documentation in the specific project?
- Should variant management be implemented identically in similar projects? If so, why? If not, why not?
- If you see potential for improvement: what should a changed/improved implementation of the variant management look like?

Evaluation criteria for this section

The evaluation of the variant management and any suggestions for improvement are understandable. The answers show that the examinee can recognize and justify the strengths and weaknesses with regard to a specific project situation.

### 3 Literature and Resources Used

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Finally, if applicable, describe which literature and resources you used to create this written assignment.