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Investigating Information Needs – Elicitation Guidelines

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Abstract

This report captures elicitation guidelines that were used to investigate information needs regarding requirements specifications. The guidelines include questionnaires that were used in an eye tracking study, a retrospective evaluation in a software engineering course as well as an evaluation conducted within a tutorial.

Keywords: requirements specification, case study, questionnaire, guideline

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1 Eye Tracking Study

1.1 Introduction

The main aim of this study was to identify information needs regarding requirements specifications from the viewpoint of development engineers like software architects as well as usability engineers. Research questions that motivated this study include:

- What are typical artifact types that should be contained in an SRS?
- Which notation should be used to specify artifacts of a certain type?

To address these research questions we provided the participants with a requirements specification that was created within a real software project based on a task-oriented requirements engineering approach (TORE [1]). The specification comprised three Word documents:

- *Domain Requirements Specification* (133 pages)
- *System Requirements Specification* (140 pages)
- *Annex Document* (82 pages)

The participants were then asked to browse the given requirements specification and while "thinking aloud" [2] the participants should comment about the usefulness of the specified information for conducting their tasks (in particular derive architecture, design a user interface).

The participants were observed while browsing the documents and in addition, an eye tracking device was used to identify sections within the document that receive special attention by the participants.

At the end of each session, the participants had to fill out a questionnaire designed to capture data for statistical analysis, i.e. retrospectively rate the usefulness of the artifacts included in the given documents for their particular tasks and the usefulness of the notations. This questionnaire will be described in the following.

1.2 Questionnaire

The questionnaire was designed in such a way that the participants had to rate each artifact type contained in the given documents on a

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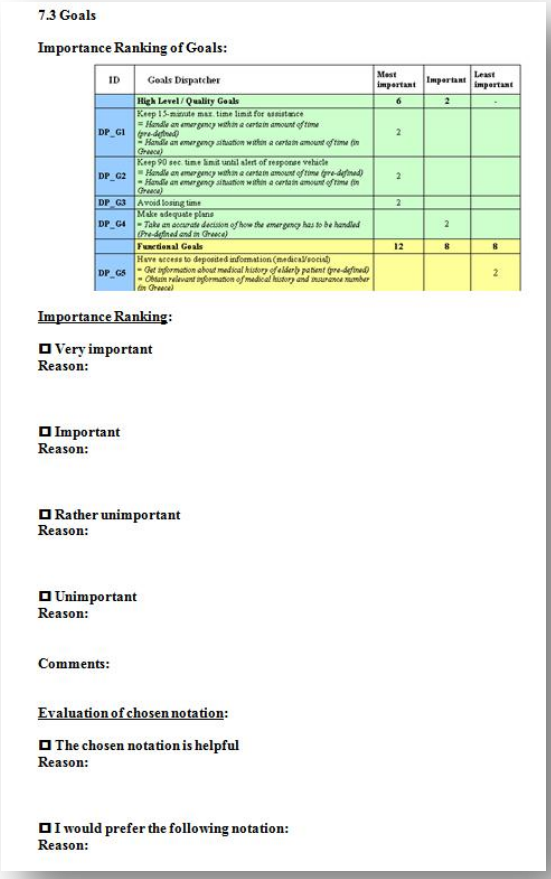
scale from 1 to 4 with 1 = “very important”, 2 = “important”, 3 = “rather unimportant”, and 4 = “unimportant”. Each artifact type was illustrated by an example screenshot from the documents.

While rating the importance of the artifact types the participants were also asked to provide a short comment about the reason, why certain artifact types are (very) important or unimportant.

In addition the participants should also indicate whether notations used in the documents for specifying certain artifact types was helpful or whether they preferred another notation.

Figure 1 illustrates an extract from the questionnaire on the example of the importance rating and usefulness of the notation of the goal descriptions.



7.3 Goals

Importance Ranking of Goals:

ID	Goals Dispatcher	Most important	Important	Least important
	High Level / Quality Goals	**6**	**2**	-
DP_G1	Keep 15-minute max. time limit for assistance = *Handle an emergency within a certain amount of time (pre-defined)* = *Handle an emergency situation within a certain amount of time (in Greece)*	2		
DP_G2	Keep 90 sec. time limit until alert of responsae vehicle = *Handle an emergency within a certain amount of time (pre-defined)* = *Handle an emergency situation within a certain amount of time (in Greece)*	2		
DP_G3	Avoid losing time	2		
DP_G4	Make adequate plans = *Take an accurate decision of how the emergency has to be handled (Pre-defined and in Greece)*		2	
	Functional Goals	**12**	**8**	**8**
DP_G5	Have access to deposited information (medical/social) = *Get information about medical history of elderly patient (pre-defined)* = *Obtain relevant information of medical history and insurance number (in Greece)*			2

Importance Ranking:

☐ **Very important**
Reason:

☐ **Important**
Reason:

☐ **Rather unimportant**
Reason:

☐ **Unimportant**
Reason:

Comments:

Evaluation of chosen notation:

☐ **The chosen notation is helpful**
Reason:

☐ **I would prefer the following notation:**
Reason:

Figure 1: Extract from questionnaire on the example of goals

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The following artifact types and notations have been evaluated and rated by the participants in the questionnaire:

- Abstract
- Table of Content
- Introduction covering textual descriptions of **overall project goals** as well as document overview
- Textual Case Reports illustrating **current problems** to be solved (as motivation)
- Textual **RE Process description** providing information about various phases and activities executed during the requirements engineering phase
- **Stakeholder description** comprising descriptions of end users to be supported by the system including context information and information about their role. The stakeholder descriptions were specified **in form of structured text descriptions** (see Figure 2) supplemented with a **persona** (see Figure 3).

4.2.3.3 Dispatcher

The dispatcher is a person working in the dispatch center where ambulances, emergency doctor vehicles, and fire alarms are coordinated. Emergency calls come in via a central number (e.g., 112 (Germany) or 166 (Greece)). In general, dispatchers are members of a fire brigade and/or are skilled as EMT-Ps ("Rettungsassistent") and have received a special training in dispatching.

Role

Depending on the severity of the emergency situation of the elderly indicated by the system, the dispatcher is the recipient of the alarm and has to interpret data/information sent by the system regarding the emergency in order to take adequate actions and coordinate further measures.

Context / Environment

In Germany, there is a tendency to co-locate the EMS dispatch center and the fire brigade in an integrated Dispatch Center.

In Greece, the EMS and the fire brigade are different services. In particular, the emergency calls (166) enter a call center where the dispatcher is informed about the situation of the patient and immediately sends out an ambulance. The fire brigade uses another call center (199), where again the dispatcher is informed accordingly and directs the fire brigade vehicle(s) to the location in need.

Figure 2: Example textual stakeholder description

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Table 4: Persona Description "Theresa Becker"

	Name	Theresa Becker
	Gender	Female
	Birth date	January 7th, 1926
	Address	Sunstreet 23, 1234 Everwood
	Telephone	0783-879-8903
	Marital Status	widowed (husband died in 1998)
	Medical Issues	N/A
Context information	• Lives alone in her home, which was built by her and her husband 45 years ago. • Her children initiated the re-design of the privately owned home according to the requirements of elderly persons 15 years ago • Since the death of her husband, Theresa has been used to live her everyday life alone. • Her daughter Susan and her son Ben are living at a distance of 350 and 500 kilometers. They visit their mother once or twice a year. • Theresa and her daughter Susan talk on the phone, at least once a week. • Theresa gets by with being single actually she is very proud of living independently at this age and being capable to keep the house on her own. • Several times a week, she meets with friends. Together they chat and regularly attend the memory training class at the adult education center.	

Figure 3: Example Persona

- Description of the methods and guidelines followed during **goal and task analysis**
- **Description of subjects** participating in requirements elicitation workshops / interviews
- **Importance ranking of elicited stakeholder goals** in form of a table (see Figure 4).

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	High Level / Quality Goals	**6**	**2**	**-**
DP_G1	Keep 15-minute max. time limit for assistance = *Handle an emergency within a certain amount of time (pre-defined)* = *Handle an emergency situation within a certain amount of time (in Greece)*	2		
DP_G2	Keep 90 sec. time limit until alert of response vehicle = *Handle an emergency within a certain amount of time (pre-defined)* = *Handle an emergency situation within a certain amount of time (in Greece)*	2		
DP_G3	Avoid losing time	2		
DP_G4	Make adequate plans = *Take an accurate decision of how the emergency has to be handled (Pre-defined and in Greece)*		2	
	Functional Goals	**12**	**8**	**8**
DP_G5	Have access to deposited information (medical/social) = *Get information about medical history of elderly patient (pre-defined)* = *Obtain relevant information of medical history and insurance number (in Greece)*			2
DP_G6	Obtain information about location (address, name, floor, apartment, etc.) = *Get information about exact location of the emergency (pre-defined)* = *Get information about location (in Greece)*	2		

Figure 4: Example of importance ranking of goals

- **Hierarchical relations between elicited stakeholder goals** in form of a goal graph (see Figure 5)

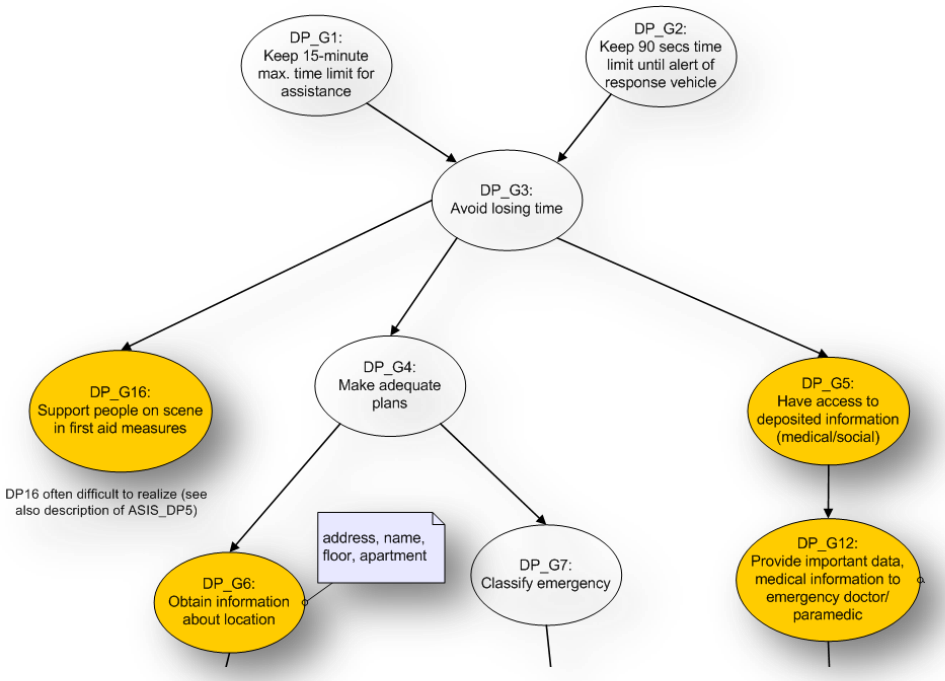

Figure 5: Example Goal Hierarchy

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- **Description of as-is workflows** that are to be supported by the system to be developed in form of unstructured text descriptions supplemented with diagrams visualizing the process using C3 notation [3] (see Figure 6)

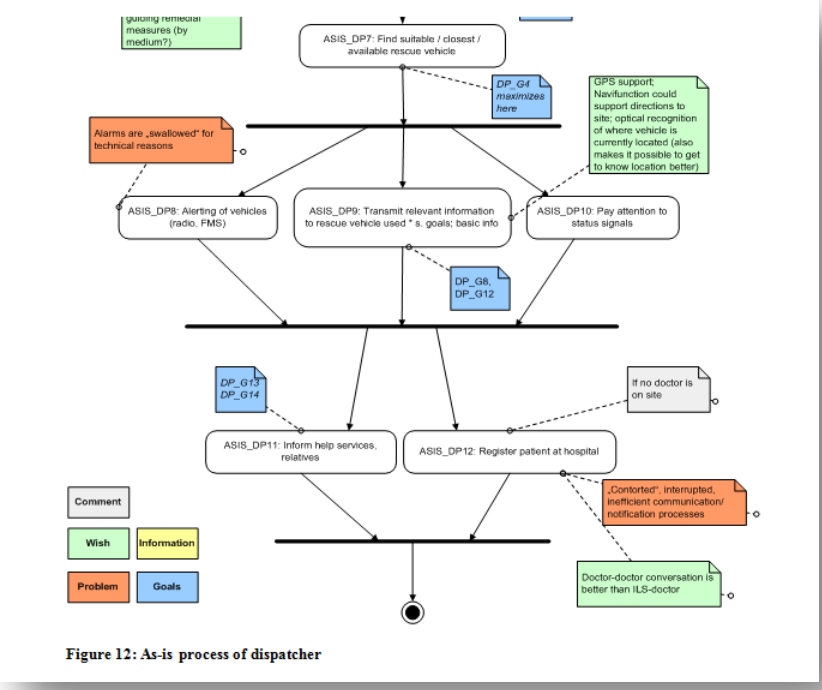

Figure 6: Example Extract from As-Is Workflow description using C3 notation

- **Detailed descriptions of as-is activities** in form of structured text (templates) describing goals, problems, wishes, and information needs for each activity in the as-is workflow (see Figure 7).

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ASIS_DP5: Decision about suitable remedial measures	
Goals	• Keep 15-minute max. time limit for assistance (DP_G1) • Keep 90 sec. time limit until alert of response vehicle (DP_G2) • Avoid losing time (DP_G3) • Make adequate plans (DP_G4) • Support people on scene in first aid measures (DP_G16) • Understand situation (DP_G17)
Problems	• It is almost impossible to initiate first aid measures due to time pressure (e.g., in case of reanimation someone needs to stay and assist on the phone the whole time) • Fear of callers to act (may also lead to psychological problems for caller) • Lack of competence and/or willingness of callers to perform first aid
Wishes	• Reduce contact fears / mass education in first aid measures • Definition of responsibilities for guiding remedial measures • Video surveillance during support of first aid measures would be helpful

Figure 7: Example As-Is Activity Description

- **Decisions of goals to be supported (scoping)** visualized in form of a table
- Textual **description of ethical aspects**
- Textual **description of system scope**
- Textual **description of main features**
- Textual **description of subsystems** supplemented with UML component diagram
- Textual **description of operation modes** supplemented with state machine
- Textual **description of technical requirements** (in form of a table)
- **Description of system data** in form of a table and diagram visualizing communication and information flow.
- **Textual description of quality attributes and non-functional requirements** supplemented with quality models visualizing the priority of quality attributes as elicited with the stakeholders
- **Description of functional requirements related to situation detection** in from of UML use case diagrams and textual scenario descriptions
- **Textual description of sensors involved in the situation detection** (in form of a table)

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- **Description of to-be workflows** (future workflows with system support) in form of unstructured text supplemented with diagrams visualizing the process using C3 notation [3] with annotations, and textual scenarios (similar to as-is workflow illustrated in Figure 6).
- **Detailed description of to-be activities** in form of structured text (templates) describing goals, benefits, and information needs for each activity in the to-be workflow (similar to as-is activity description illustrated in Figure 7).
- **Description of interactions** in form of UML use case diagrams (see Figure 8) and structured text descriptions (use case templates, see Figure 9).

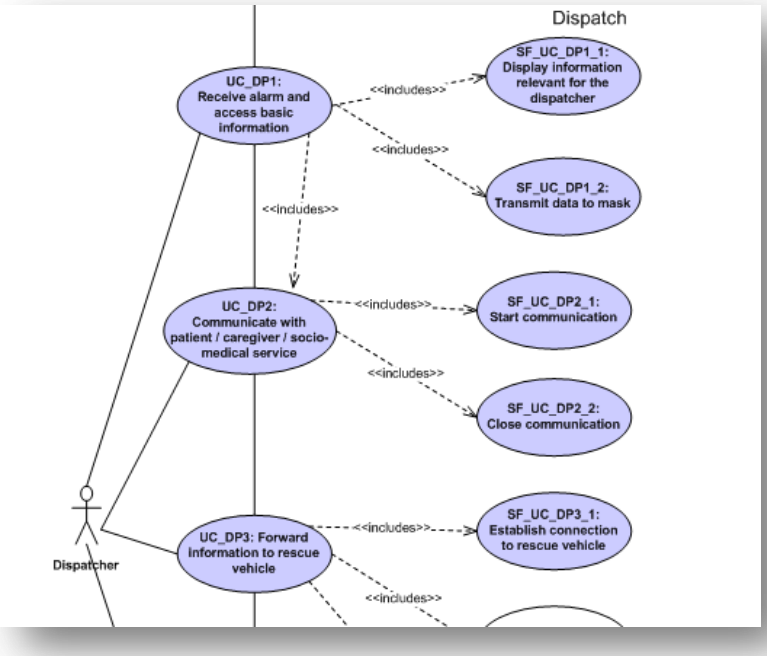

Figure 8: Example Extract from Use Case Diagram

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	information.
Trigger/ intent	Dispatcher found a suitable rescue vehicle to handle the emergency and no wants to give them proper information.
Supported goal(s) from WP2	• Keep 15-minute max. time limit for assistance (DP_G1) • Keep 90 sec. time limit until alert of response vehicle (DP_G2) • Forward information about proper access to apartment (DP_G8) • Provide important data, medical information to emergency doctor / paramedic (DP_G12)
Supported workflow	Workflow dispatcher: Forward alarm (part 2) (see Figure 52)
Supported task(s) from WP2	TOBE_DP_12: Forward information to rescue vehicle
Preconditions	• System Dispatcher found suitable rescue vehicle • Device in vehicle (Edoc-subsystem) is in operation
Flow of events: Main flow	1. Dispatcher contacts suitable rescue vehicle. 2. System establishes connection between dispatcher and rescue vehicle. 3. Dispatcher forwards the necessary information to the rescue vehicle. 4. System transmits the information and gives feedback
Alternative flows	N/A
Exceptional flows	N/A
Assumptions/ rules	Data transmission is successful
Displayed information from User Model (see also [BS+08])	N/A
Postconditions	All relevant information has been forwarded to the rescue vehicle.
NFRs	Efficiency • *Response Time*: The system should establish a connection to the rescue vehicle within 30 seconds. • *Transmission Time*: Alarm and data should be forwarded within 30 seconds. Usability • *Appropriate feedback*: The system should inform about current states o activities that are executed, e.g., in case that data has been sent (see SF_UC_DP3_3)
System Functions	SF_UC_DP3_1: Establish connection to rescue vehicle SF_UC_DP3_2: Transmit information SF_UC_DP3_3: Inform that data has been sent

Figure 9: Example Extract from Use Case Description

Figure 10: Example Extract from Use Case Description

- **Description of system functions** in form of text descriptions (in table, see Figure 11)

System Functions		Short Description
SF_UC_DP1_1	Display information relevant for the dispatcher	The Dispatcher-subsystem displays basic data relevant for the dispatcher to access the situation (this data corresponds to the information specified in UC_DP1 (see Table 42) and data overview (see Table 17). (see Figure 56)
SF_UC_DP1_2	Transmit data to mask	(optional) Displayed data such as name, address, etc. should be transferred (via button-klick) into the mask of dispatcher's system (external system) (see Figure 55)
SF_UC_DP2_1	Start communication	The dispatcher accepts the incoming call that has been established by the Home-subsystem upon sending an alarm and information (see SF_UC_EE1_5). In case that of communication with the AP the system has to provide audio near the patient.

Figure 11: Example Extract from System Function Description

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- **Preliminary UI Mock-ups** (see Figure 12)

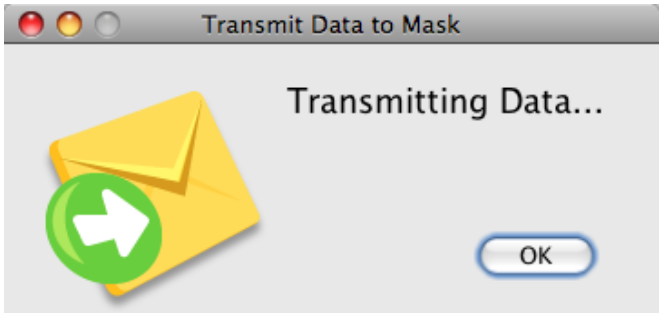

Figure 12: Example Mock-Up

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2 Retrospective Study in SE Course

2.1 Introduction

Similar to the eye tracking study introduced in the previous chapter 1, the main aim of this study was also to identify information needs regarding requirements specifications from the viewpoint of software architects with the related research questions:

- What are typical artifact types that should be contained in an SRS?
- Which notation should be used to specify artifacts of a certain type?

The participants of this study were 13 students (9 computer science students and 4 economic science students with specialization in computer science) enrolled in a practical software engineering course at the University of Kaiserslautern. In this practical course the students had to develop an account management system for a real customer. Within a time frame of about 3 months the students (divided into groups of 4 -5 students) had to run through a complete SE process, comprising activities like requirements engineering, architecture design, UI design, implementation, and testing. After the students had completed the architecture design phase, we captured the importance and usefulness of previously specified requirements artifacts for architecture design by means of a questionnaire. The requirements specification created by the students was also done by applying the TORE approach [1] which had been taught in the previous software engineering course.

2.2 Questionnaire

In the following we would like to describe the questionnaire that we used in the study to retrospectively rate the importance of requirements artifacts for architectural design. The questionnaire was divided into three parts: the first one was dedicated to capture background data; the second part asked the participant to rate the importance of artifact types specified during the requirements engineering phase from the viewpoint of a software architect; and finally the third part captured the usefulness of the chosen notations.

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Questionnaire

In the context of the requirements engineering phase of the GSE course, you have specified several artifacts based on the TORE framework. With the help of this questionnaire we would like to find out how important the TORE decisions and resulting artefacts are both for requirements engineering tasks and architectural design. Furthermore, we would like to find out whether the notations that you used to specify the decisions are appropriate to support architectural activities.

The following questionnaire basically comprises 3 parts: in the first part you are asked to **provide some information about your background**. In the second part you should take over the **viewpoint of an architect** that is asked to design an architecture based on a requirements specification that is derived based on the TORE framework and **rate the relevance of the artefacts.** Finally, in the third part your are asked to rate **the usefulness of the notations.**

THANK YOU VERY MUCH IN ADVANCE

PART1: BACKGROUND INFORMATION

Please indicate the number of the group that you are assigned to in the GSE course:

Please indicate your age:

Please indicate your gender:

Please specify your educational background (e.g. bachelor or master student of software engineering):

Please write down the number of the semester you are currently enrolled in:

Have you been enrolled in the GSE course (theory part)? If yes, in what semester:

Please indicate your experience level with requirements engineering in general according to the following scale
1 = I have never heard about requirements engineering
2 = I applied requirements engineering methods only during the practical GSE course in Summer Semester 2011
3 = I was also teached and execised requirements engineering methods during courses other than the GSE lecture (in this case, please indicate the course)
4 = I have already applied requirements engineering methods also outside university courses

Experience Level: _____

Please indicate your experience level with TORE in general according to the following scale
1 = I have never heard about TORE
2 = I applied the TORE framework only during the practical GSE course in Summer Semester 2011
3 = I was also teached and execised the TORE framework during courses other than the GSE lecture (in this case, please indicate the courses)
4 = I have already applied the TORE framework also outside university courses

Experience Level: _____

Please indicate your experience level with architectural design in general according to the following scale
1 = I have never heard about architectural design
2 = I performed architectural design only during the practical GSE course in Summer Semester 2011
3 = I was also teached and execised architectural design during courses other than the GSE lecture (in this case, please indicate the courses)
4 = I have already performed architectural design also outside university courses

Experience Level: _____

Figure 13: Questionnaire Part 1: Background Information

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PART2: RELEVANCE OF RE-ARTEFACTS
VIEWPOINT ARCHITECT

Please take over the perspective of an architect and evaluate the usefulness of the following RE-artefacts for designing the architecture of a system to be developed.
Please assign a relevance value from 1 to 4 with
1 = the artefact is **very important** for architectural design
2 = the artefact is **important** for architectural design
3 = the artefact is **rather unimportant** for architectural design
4 = the artefact is **unimportant** for architectural design
If you select either 1 or 2, please indicate a short rationale, why you consider this artefact as (very) important, in particular for which activitiy / architectural decisions?

Artefacts	1	2	3	4	Rationale / Architectural Decision (in case of Rating 1 or 2)
Supported Stakeholders					
Stakeholder Goals					
Tasks					
As-Is Activities					
To-Be Activities					
System Responsibilities					
Domain Data					
Interaction Data					
Interaction (Use Cases)					
System Functions					
Quality Attributes and NFRs					
Technical Constraints					

Do you think that there exist additional artefacts (types of requirements) that are important for architectural design and that have not been elicited and specified during the requirements engineering phase? If yes, please indicate these artefacts:

Have you experienced any problems during the architecture phase? If yes, please provide some information about these problems and (if available) indicate ideas of how to solve these problems.

Do you have any suggestions to improve the provided supplementing material (e.g, process description) for the architecture phase?

Do you have any further comments related to the architecture phase?

Figure 14: Questionnaire Part 2: Importance Rating of Artifact Types

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PART3: USEFULNESS OF NOTATIONS
VIEWPOINT ARCHITECT

Finally, please evaluate the usefulness of notations that have been used to specifiy the artefacts from an architect's viewpoint.

Please assign a relevance value from 1 to 4 with
1 = the notation is **very helpful** for architectural design
2 = the notation is **helpful** for architectural design but could be improved
3 = the notation is **not helpful** for architectural design and needs to be improved
Not Used = the notation has not been used to specify the artefact

If you select either 2 or 3, please indicate problems and provide suggestions for improvements (e.g., other notations, further information to be specified in a given template.

Artefacts	Notation	1	2	3	Not used	Improvement Suggestions (in case of Rating 2 or 3)
Supported Stakeholders	Persona					
	Role Description Template					
	Unstructured text					
	Other					
Stakeholder Goals	Goal Description Template					
	Goal Graph					
	Unstructured text					
	Other					
Tasks	Task Description Template					
	Unstructured text					
	Other					
As-Is Activities	Activity Diagrams					
	Event-driven Process Chains					
	Unstructured text					
	Other					
To-Be Activities	Activity Diagrams					
	Event-driven Process Chains					
	Unstructured text					
	Other					
System Responsibilities	Use Case Diagram					
	Classification Table					
	Other					
Domain Data	Entity Relationship Diagram					
	Class Diagram					
	Other					
Interaction Data	Entity Relationship Diagram					
	Class Diagram					
	Other					
Interaction (Use Cases)	Use Case Template					
	Other					
System Functions	System Function Template					
	Other					

Figure 15: Questionnaire Part 3: Usefulness of Notations

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3 Evaluation in Tutorial

This study has been conducted within a tutorial session conducted by one of the authors [3]. In this tutorial, we presented the TORE framework [1], including typical artifact types, illustrated on example specifications with different notations. After presentation of the artifact types, the participants had to fill out a questionnaire that is introduced in the following.

3.1 Questions related to Roles and Tasks

Bitte beschreiben Sie kurz Ihre Rolle im Rahmen eines Softwareentwicklungsprozesses?	
Welches sind Ihre typischen Aufgaben / Verantwortungsbereiche? (bitte kreuzen Sie Aufgaben, welche auf Informationen in Anforderungsdokumenten basieren an)	
Auf welchen Informationen aus Anforderungsdokumenten basieren diese Aufgaben? (z.B. Stakeholderbeschreibungen, Aufgabenbeschreibungen)	
Existieren derzeit Probleme im Hinblick auf Anforderungsdokumente? Falls ja, können Sie diese bitte kurz beschreiben?	

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3.2 Questions related to Goal and Task Level

Ist die Stakeholderanalyse wichtig für die Durchführung Ihrer Aufgaben?							
	Sehr wichtig		Wichtig		Eher unwichtig		Unwichtig
Begründung:							

Im Rahmen der Stakeholderanalyse werden folgende Informationen erhoben. Bitte markieren Sie die Informationen, welche auch für Ihre Aufgaben relevant sind.	
	Rolle(n)
	Verantwortungsbereich(e)
	Kommunikationspartner
	Häufige Aufgaben und Aktivitäten
	Seltene Aufgaben und Aktivitäten
	Arbeitsumgebung
	Alter
	Geschlecht
	Sprache
	Religion
	Ausbildung
	Kultur
	Individuelle Bedürfnisse / Kernziele
	Besondere Eigenschaften
	Mentale / Körperliche Einschränkungen
	Vorlieben / Einschränkungen im Hinblick auf Geräte / Interaktionsmodalitäten

Fehlen wichtige Informationen über die Stakeholder? **Falls ja, welche?**

Welche Darstellung bevorzugen Sie? **(z.B. Persona, tabellarische Rollenbeschreibung)**

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Ist die Zielanalyse wichtig für die Durchführung Ihrer Aufgaben?							
	Sehr wichtig		Wichtig		Eher unwichtig		Unwichtig
Begründung:							

Im Rahmen der Zielanalyse werden folgende Informationen erhoben. Bitte markieren Sie die Informationen, welche auch für Ihre Aufgaben relevant sind.	
	Projektziele
	Geschäftsziele
	Individuelle Ziele aus Sicht der Stakeholder (z.B. im Hinblick auf Funktionalität)
	Aktuelle Ziele, die auch weiterhin unterstützt werden sollen
	Ziele, die derzeit nicht erreicht werden können
	Beziehungen zwischen den Zielen (Hierarchie)
	Beziehungen zwischen den Zielen (Konflikte)
	Priorität

Fehlen wichtige Informationen zu Zielen? Falls ja, welche?

Welche Darstellung bevorzugen Sie? (z.B. Zielmodell, tabellarische Beschreibung?)

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Ist die Aufgabenanalyse wichtig für die Durchführung Ihrer Aufgaben?							
	Sehr wichtig		Wichtig		Eher unwichtig		Unwichtig
Begründung:							

Im Rahmen der Aufgabenanalyse werden folgende Informationen erhoben. Bitte markieren Sie die Informationen, welche auch für Ihre Aufgaben relevant sind.	
	Zielsetzung der Aufgabe
	Rolle
	Durchführungsprofil
	Motive
	Vorbedingungen
	Benötigte Informationen
	Ergebnis
	Priorität
	Benötigte Ressourcen
	Qualitätsanforderungen / NFR

Fehlen wichtige Informationen zur Aufgabenanalyse? Falls ja, welche?

Welche Darstellung bevorzugen Sie? (z.B. tabellarische Aufgabenbeschreibung)

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3.3 Questions related to Domain Level

Ist die Ist-Analyse wichtig für die Durchführung Ihrer Aufgaben?							
	Sehr wichtig		Wichtig		Eher unwichtig		Unwichtig
Begründung:							

Im Rahmen der Ist-Analyse werden folgende Informationen erhoben. **Bitte markieren Sie die Informationen, welche auch für Ihre Aufgaben relevant sind.**	
	Zielsetzung des Prozesses / der Aktivitäten
	Ist-Aktivitäten
	Involvierte Rollen
	Ressourcen (Software, Geräte)
	Dokumente / Daten (Input)
	Dokumente / Daten (Output)
	Vorbedingungen
	Nachbedingungen
	(Geschäfts-) Regeln
	Qualitätsanforderungen / NFR
	Derzeitige Probleme
	Lösungsideen

Fehlen wichtige Informationen zur Ist-Analyse? **Falls ja, welche?**

Welche Darstellung bevorzugen Sie? **(z.B. Prozessmodelle in Form von UML Aktivitätsdiagrammen, EPKs, BPMN, Fließ-text, tabellarische Form)**

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Ist die Soll-Analyse wichtig für die Durchführung Ihrer Aufgaben?							
	Sehr wichtig		Wichtig		Eher unwichtig		Unwichtig
Begründung:							

Im Rahmen der Soll-Analyse werden folgende Informationen erhoben. Bitte markieren Sie die Informationen, welche auch für Ihre Aufgaben relevant sind.	
	Zielsetzungen des Prozesses / der Aktivitäten
	Soll-Aktivitäten
	Involvierte Rollen
	Ressourcen (Software, Geräte)
	Dokumente / Daten (Input)
	Dokumente / Daten (Output)
	Vorbedingungen
	Nachbedingungen
	(Geschäfts-) Regeln
	Qualitätsanforderungen / NFR
	Klassifikation der Aktivitäten (Mensch-System-Aktivitäten, manuelle Aktivitäten, System-Aktivitäten, System-System-Aktivitäten)

Fehlen wichtige Informationen zur Soll-Analyse? Falls ja, welche?

Welche Darstellung bevorzugen Sie? (z.B. Prozessmodelle in Form von UML Aktivitätsdiagrammen, EPKs, BPMN, Fließ-text, tabellarische Form)

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Ist die Datenanalyse auf Domänenebene wichtig für die Durchführung Ihrer Aufgaben?

	Sehr wichtig		Wichtig		Eher unwichtig		Unwichtig

Begründung:

Im Rahmen der Datenanalyse auf Domänenebene werden folgende Informationen erhoben.
Bitte markieren Sie die Informationen, welche auch für Ihre Aufgaben relevant sind.

	Wichtige Konzepte / Begriffe
	Attribute
	Beziehungen

Fehlen wichtige Informationen zur Datenanalyse?
Falls ja, welche?

Welche Darstellung bevorzugen Sie?
(z.B. Datenglossar, Entity Relationship Diagramme, UML-Klassendiagramme)

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3.4 Questions related to the Interaction Level

Ist die Interaktionsspezifikation wichtig für die Durchführung Ihrer Aufgaben?							
	Sehr wichtig		Wichtig		Eher unwichtig		Unwichtig
Begründung:							

Im Rahmen der Interaktionsspezifikation werden folgende Informationen dokumentiert. **Bitte markieren Sie die Informationen, welche auch für Ihre Aufgaben relevant sind.**	
	Zielsetzungen der Interaktion
	Aktoren
	Vorbedingungen
	Ablauf
	Ausnahmen
	Alternativen
	(Geschäfts-)Regeln
	Qualitätsanforderungen / NFR
	Daten
	Systemfunktionen
	Nachbedingungen

Fehlen wichtige Informationen zur Interaktionsspezifikation? **Falls ja, welche?**

Welche Darstellung bevorzugen Sie? (z.B. tabellarische Use Case Beschreibungen, Use Case Diagramme, Szenariobeschreibungen)

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Ist die Systemfunktionsspezifikation wichtig für die Durchführung Ihrer Aufgaben?							
	Sehr wichtig		Wichtig		Eher unwichtig		Unwichtig
Begründung:							

Im Rahmen der Systemfunktionsspezifikation werden folgende Informationen dokumentiert. **Bitte markieren Sie die Informationen, welche auch für Ihre Aufgaben relevant sind.**	
	Eingabe (benötigter Input)
	Vorbedingungen
	Beschreibung
	Ausnahmen
	Alternativen
	(Geschäfts-)Regeln
	Qualitätsanforderungen / NFR
	Daten
	Ausgabe
	Nachbedingungen

Fehlen wichtige Informationen zur Systemfunktionsspezifikation? **Falls ja, welche?**

Welche Darstellung bevorzugen Sie? **(z.B. tabellarische Systemfunktionsbeschreibung)**

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Ist die Datenanalyse auf Interaktionsebene wichtig für die Durchführung Ihrer Aufgaben?

	Sehr wichtig		Wichtig		Eher unwichtig		Unwichtig

Begründung:

Im Rahmen der Datenanalyse auf Interaktionsebene werden folgende Informationen erhoben.

Bitte markieren Sie die Informationen, welche auch für Ihre Aufgaben relevant sind.

	Wichtige Konzepte / Begriffe
	Attribute
	Beziehungen

Fehlen wichtige Informationen zur Datenanalyse?

Falls ja, welche?

Welche Darstellung bevorzugen Sie?

(z.B. Datenglossar, Entity Relationship Diagramme, UML-Klassendiagramme)

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Sind UI Strukturen wichtig für die Durchführung Ihrer Aufgaben?							
	Sehr wichtig		Wichtig		Eher unwichtig		Unwichtig
Begründung:							

Fehlen wichtige Informationen zu UI Strukturen? Falls ja, welche?

Welche Darstellung bevorzugen Sie?

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3.5 Wrap-Up

Wie bewerten Sie die Nützlichkeit der vorgestellten Aktivitäten für die Durchführung Ihrer Aufgaben?

Fehlen wichtige Informationen oder auch Aktivitäten, die nicht explizit adressiert wurden, die jedoch für Ihre Arbeiten wichtig sind?
Falls ja, bitte beschreiben Sie diese kurz

Was sieht für Sie die „perfekte Anforderungsspezifikation“ aus?

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