



Technische Universität München  
Fakultät für Informatik

## Tutorial 1: Terms, Context-Dependency, Core Activities

This exercise sheet covers the contents of the **1st lecture**.

### Exercise 1 Importance of RE

(Understanding)

Name five problems that can be solved in software and system development through sound requirements engineering.

Additional question: What does "sound" requirements engineering mean anyway?

### Exercise 2 What is going to be developed here?

(Understanding)

Develop an intuition of what system is being described by the tutor. Describe the system using a single term. Update the term if needed after each additional requirement.

- The system has a motor.
- The system can be steered with a steering wheel.
- The system must have 4 wheels.
- The system provides a seat (exactly one).
- The system shall have two gear transmissions.
- The cutting height shall be continuously variable.

Next, describe the system with a user story. What are the advantages compared to the previous description?

### Exercise 3 First Try

(Hands-on)

Imagine you work in games engineering and are responsible for the game AI of a soccer simulation. Collect requirements for a soccer team with the highest possible chance of success. Example: *'the player in possession of the ball passes the ball to a teammate only if the pass cannot be intercepted by an opponent'*.

What problems could occur when these requirements are send to the development team?

### Exercise 4 Brainstorming: Challenges and Types of Projects

(Discussion)

Discuss one of the following scenarios in groups. Use the flipchart paper to collect challenges for requirements engineers in this context, the importance of requirements engineering for project success, and what should be in the focus of the documentation.

Scenarios:

- insurance system for offers, premium calculations, conclusion of contracts and data maintenance.

- a transrapid train
- web shop for shoes

Additional task: Find one challenge that your scenario has in common with each of the other scenarios, as well as one challenge that *only* your chosen scenario has.

## Exercise 5 Classification and Analysis of Requirements

(Analyse)

Solve the following subtasks:

- Classify the following text examples into: Functional Requirements, Quality Requirements, and Process Requirements.
- For each example, mark a possible requirement source, a possible author, the stakeholders involved, the requirement rationale, and the actual requirement.

Text examples:

- The system can be controlled easily and intuitively with the aid of two control elements. A button is used to discard hints. A switch is used to turn the system on or off.
- The vehicle's radio frequency warning (RFW) system can then compare the intended direction of travel with the observed direction of travel. If the intended direction of travel and the vehicle's direction of travel match, the information is processed further; otherwise, the information is filtered out. The vision of the Radio Frequency Warning (RFW) system is to help drivers cope with the flood of information on the road with the help of radio frequency signals (hereafter RaSi).
- The RFW system is intended to provide the user with an alternative to traffic signs that are visually difficult to see.
- For the development of the RFW system the V-model XT shall be used to simplify quality assurance.
- The supplier shall comply with the applicable standards and laws, even if they are not explicitly mentioned in the agreements. It should be noted that not only the laws applicable in Germany must be complied with, but also those of other EU countries.