UNIVERSITÄT DUISBURG ESSEN

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Requirements Engineering & Management

Solution-Oriented Requirements

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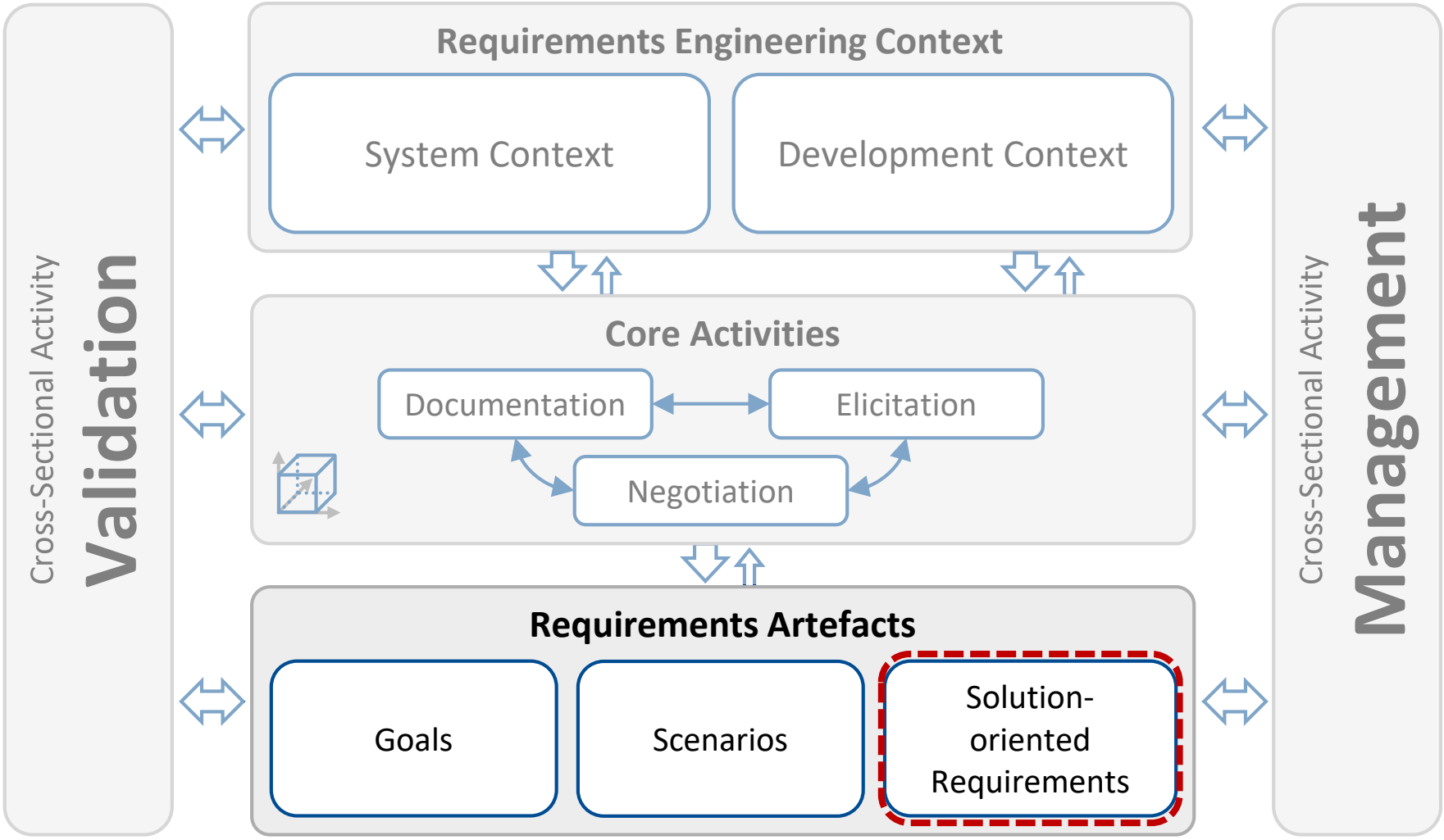
The Ruhr Institute for Software Technology

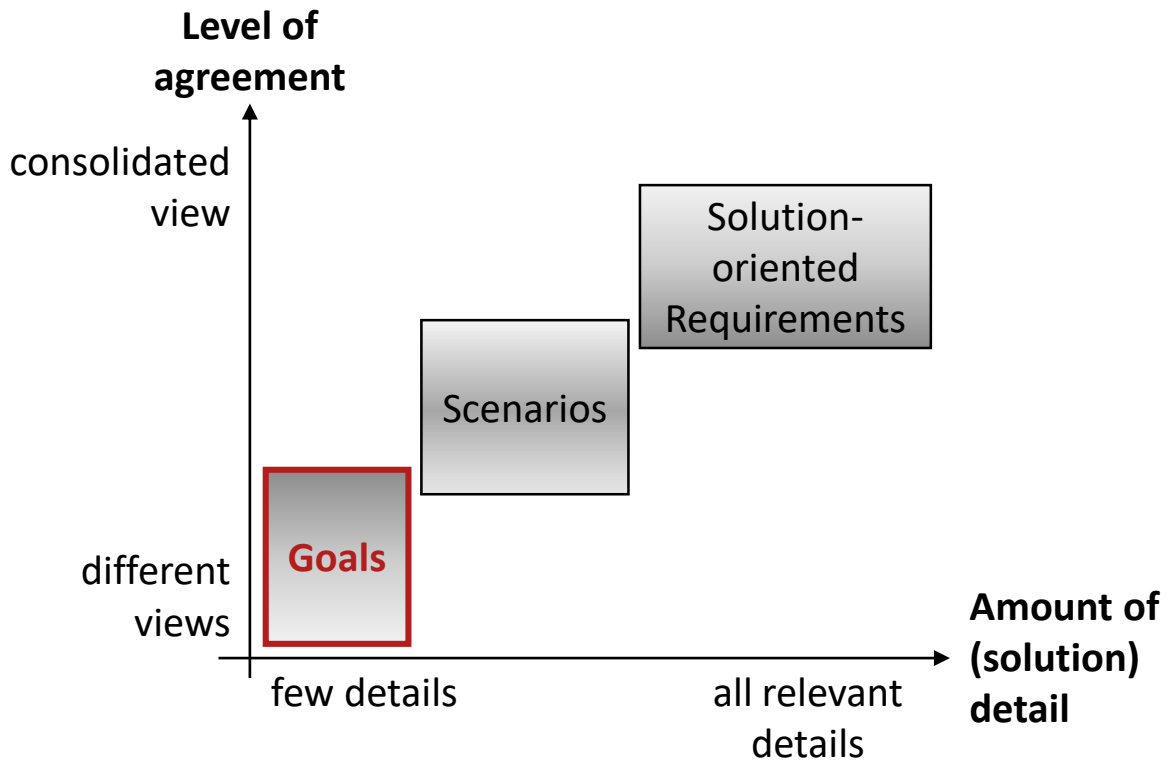
Framework for Requirements Engineering



Three Types of Requirements Artefacts

Goals

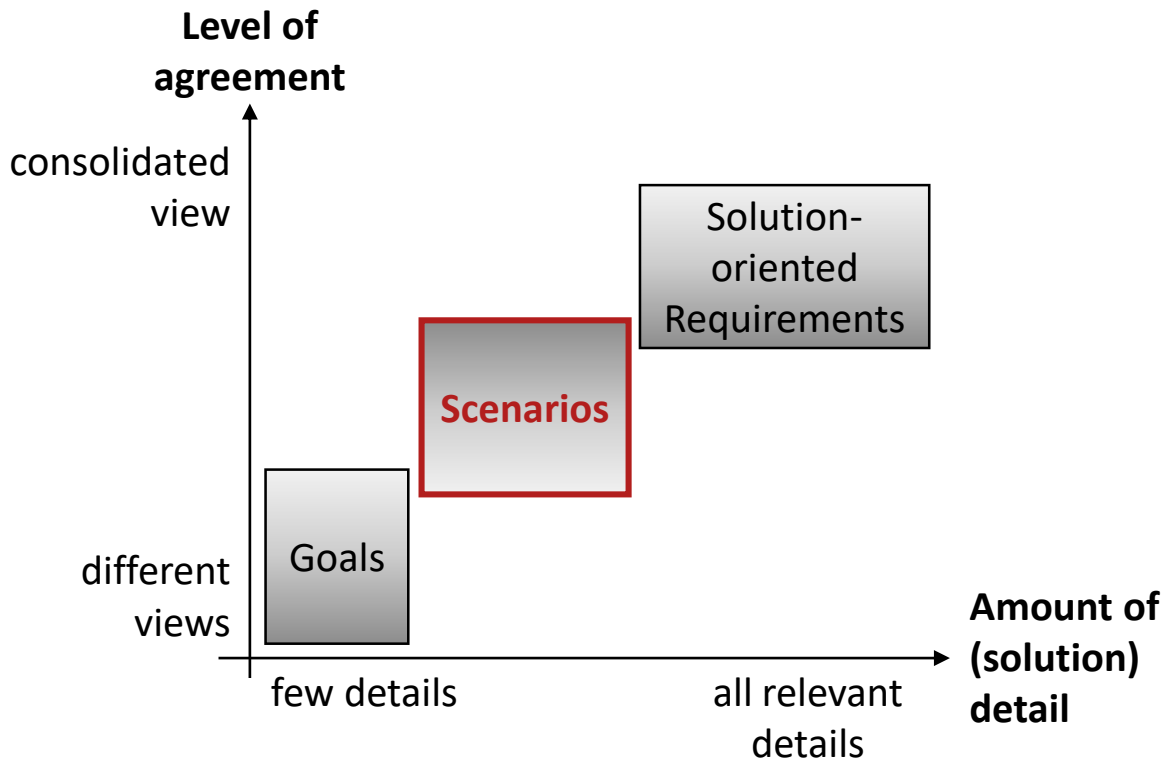
- Documentation of **stakeholder intentions**.
- A goal is an intention with regard to the **objectives**, **properties**, or **use** of the system.
- Statement of what is **expected** or required from the system.
- **Abstraction** from system usage and from the realization of the system.



Three Types of Requirements Artefacts

Scenarios

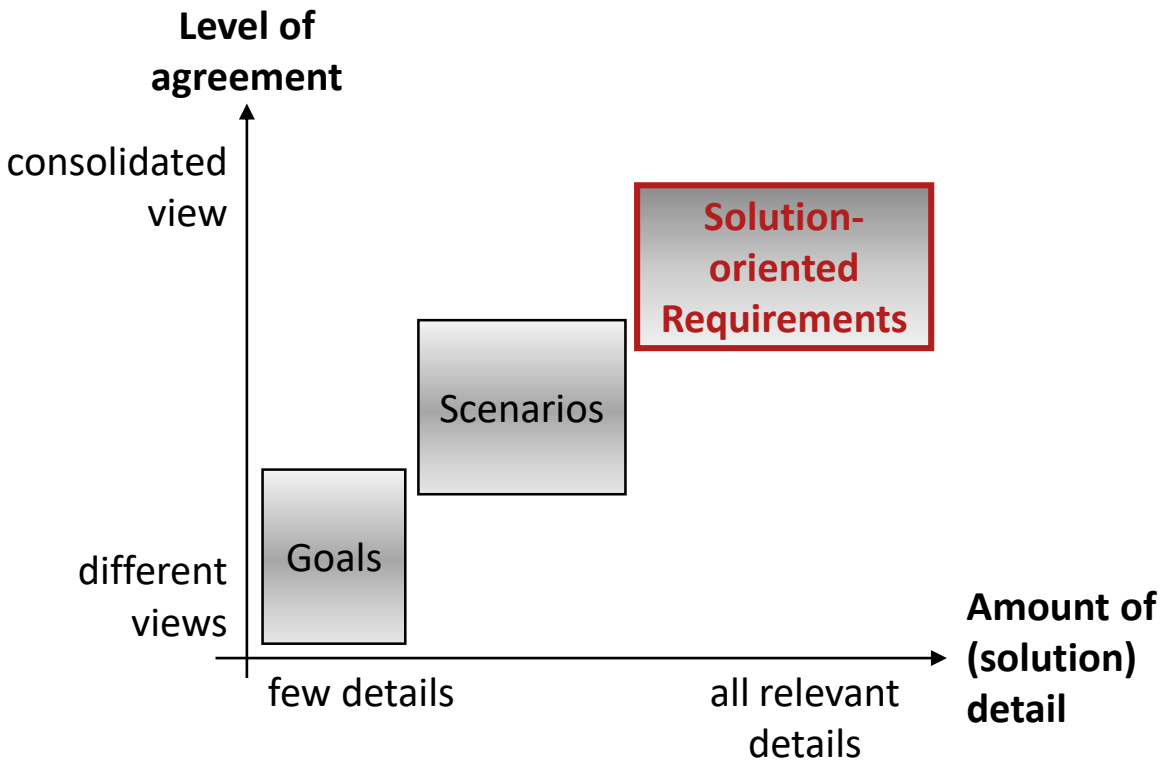
- Documentation of a concrete **example** of satisfying or failing to satisfy a goal (or set of goals).
- **Illustration** of the fulfilment (or non-fulfilment) of a goal (or set of goals).
- Definition of a sequence of **interaction steps**.



Three Types of Requirements Artefacts

Solution-oriented Requirements

- Definition of **data** perspective, **functional** perspective, and **behavioural** perspective on a software-intensive system.
- Comprise **functional** and **quality requirements**, as well as **constraints**.



Characteristics of Solution-Oriented Requirements

Agreement

- Solution-oriented requirements should be **agreed on** by all stakeholders.

Completeness

- Solution-oriented requirements should be **as complete as possible**.
- They should define all relevant **details** for **implementing** and **testing** the system.

Conflicts

- Solution-oriented requirements should be **free of conflicts**.
- Stakeholders must **resolve conflicts** and decide which solution-oriented requirements are to be fulfilled by the system.

Characteristics of Solution-Oriented Requirements

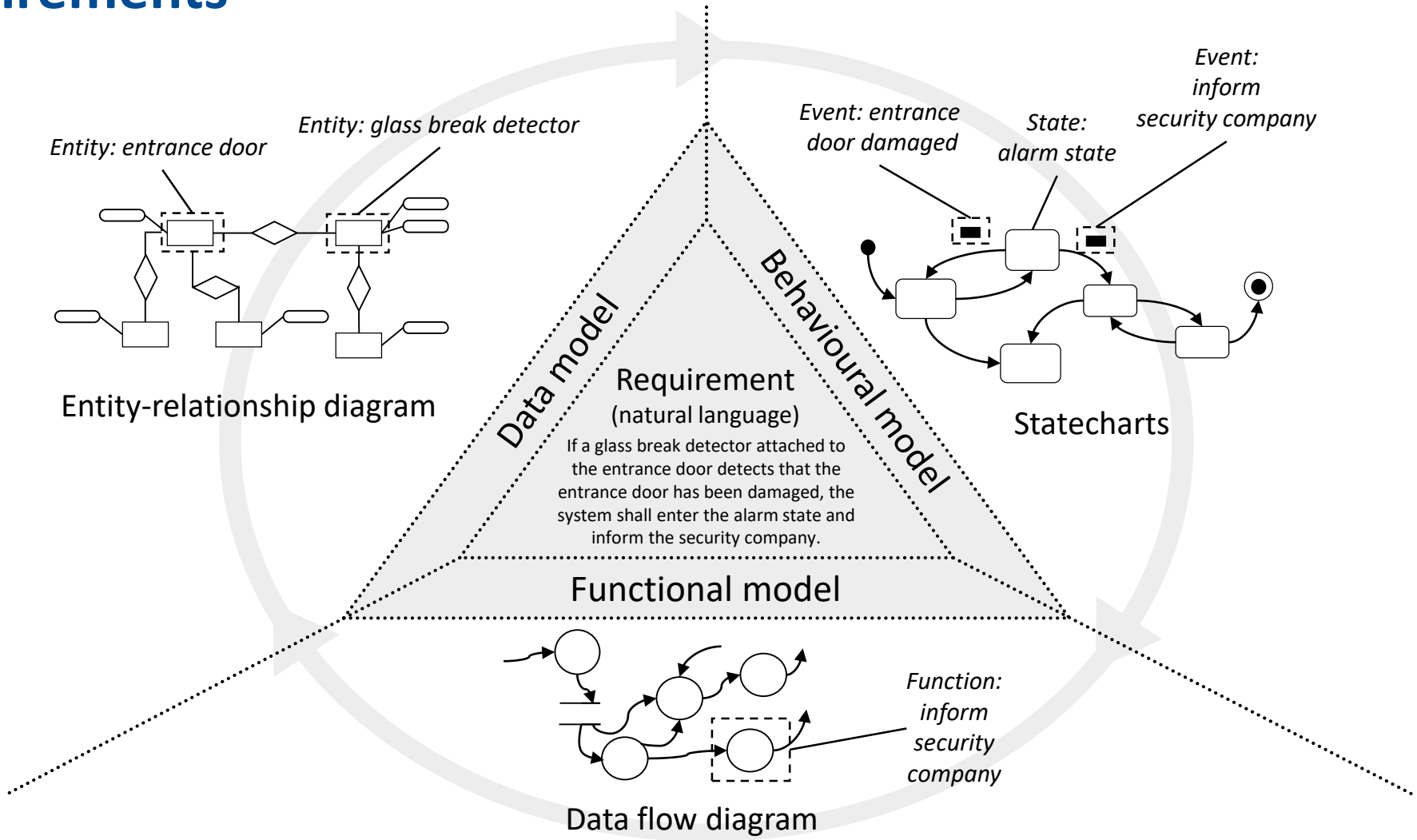
Level of Detail

- Solution-oriented requirements should be defined at a level of detail that facilitates the **unambiguous realisation** of the system.

Intended Solution

- Solution-oriented requirements typically partly specify the intended solution and thus severely **restrict the solution space**.
- They facilitate the development and sometimes even the **automatic generation** of the software solution for a specific implementation platform.

Different Conceptual Models for Solution-Oriented Requirements



Literature for Further Reading

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Vielen Dank für Ihre Aufmerksamkeit

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