

# Architecting for Business Value; Assignments

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## Abstract

All assignments of the course Architecting for Business Value.

### Distribution

This article or presentation is written as part of the Gaudí project. The Gaudí project philosophy is to improve by obtaining frequent feedback. Frequent feedback is pursued by an open creation process. This document is published as intermediate or nearly mature version to get feedback. Further distribution is allowed as long as the document remains complete and unchanged.

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logo  
TBD

Determine the system of interest

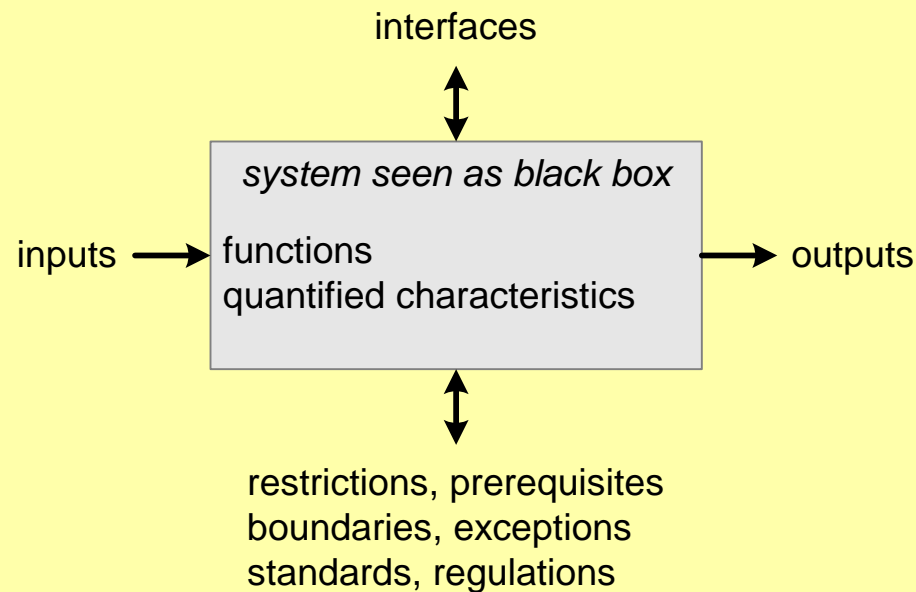
Define your organization

Determine an innovative change to be architected

# Exercise SMART KPPs and Use CAsE

Make specification overview with ~10 **SMART** Key Performance Parameters (or functions or interfaces)

determine at least one use case



*use case*  
typical use with relevant  
context data (quantified!)

- **S**pecific *quantified*
- **M**easurable *verifiable*
- **A**chievable (Attainable, Action oriented, Acceptable, Agreed-upon, Accountable)
- **R**ealistic (Relevant, Result-Oriented)
- **T**ime-bounded (Timely, Tangible, Traceable)

# Exercise Story Telling

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Create a story

as text + sketch or as cartoon

Use the criteria

be highly specific!

envision the future value proposition

Enjoy!

# Exercise Block Diagram

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Make a set of **block diagrams** capturing the **static parts** and **interfaces**.

Ensure coverage of the entire system, e.g. including service, training, production, etc.

Show both **hardware** and **software**

Good block diagrams have in the order of 10 to 20 blocks

# Exercise Dynamic Behavior

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Capture the **dynamic behavior** of the **internals** of your system in **multiple** diagrams.

Diagrams that capture dynamic behavior are among others:

- Functional flow (of control or information, material or goods, or energy)
- Activity or sequence diagrams (e.g. with “swimming lanes”)
- State diagrams




Make a **technical budget** for one of the **key performance parameters**.

- a good budget has 20 to 30 contributing elements
- elements should be balanced (remove or combine insignificant contributions)
- use the previously defined parts and dynamic behavior

# Exercise Concept Selection

Make a **decision matrix** for one of the **concept selections**.

- define at least 3 concepts
- define 7 to 10 criteria for selection
- score the concepts against the criteria, for example using a scale from 1 to 5: 1 = very poor, 5 = very good
- recommend a concept with a rationale

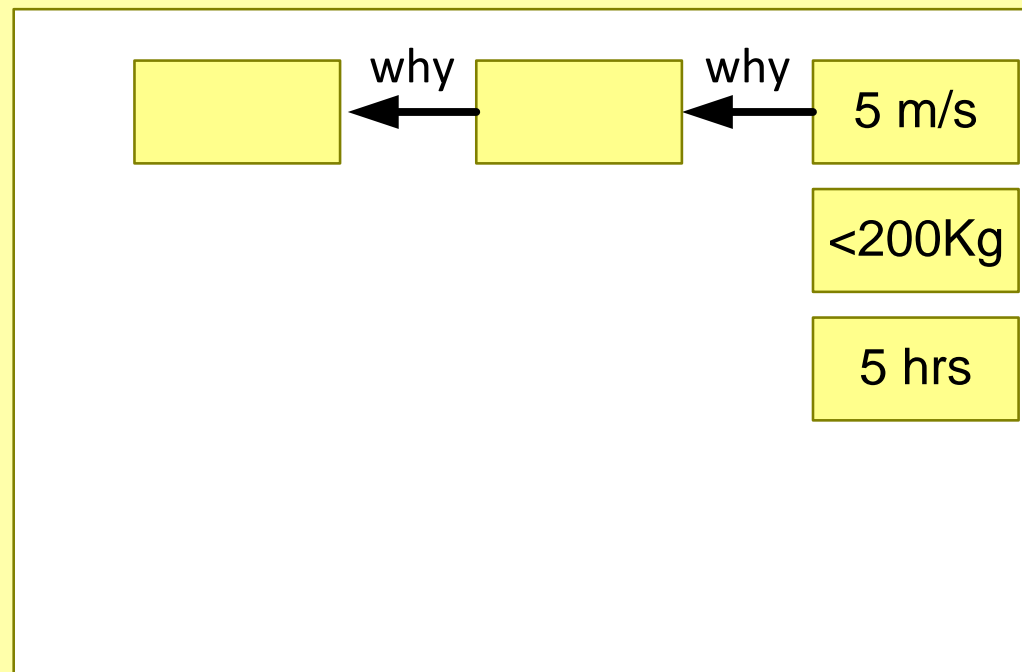
	concept 1 	concept 2 	concept 3 
critterion 1	vulnerable MTRR <span style="background-color: #ffcccc; padding: 2px;">1</span>	robust 30 hours <span style="background-color: #ccffcc; padding: 2px;">3</span>	robust access <span style="background-color: #ccffcc; padding: 2px;">5</span>
critterion n	reusing platform <span style="background-color: #ccffcc; padding: 2px;">4</span>	reusing platform <span style="background-color: #ccffcc; padding: 2px;">4</span>	resource shortage <span style="background-color: #ffcccc; padding: 2px;">2</span>
			best, because ...

# Exercise Customer Key Driver Graph

Make a **customer key driver graph**

Use yellow note stickers

Start at the right hand side



Analyze the **evolution** during the **lifecycle**.

- identify sources of change in customer context, life cycle context, and technology
- make a list of changes
- determine per change the expected rate of change and the required response time to the change
- optional: determine effort, impact, and risks per change

# Exercise Line of Reasoning

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Make a **line of reasoning** for one of the dominant qualities.

- in the CA views; determine what customers do to achieve their goal
- in the F view determine the specification of your system supporting this quality
- in the CR views determine the relevant concepts and technologies
- Take the reverse viewpoints as well: what threatens this quality?

Make a **business plan** for the mid to long-term future.

- determine business model
- determine investments, sales volume, sales price, and costs
- estimate the cash flow and accumulated profit
- include at least 3 releases or generations of systems

# Exercise Threads of Reasoning

