Overview of CAFCR and Threads of Reasoning

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Abstract

The described architecting method uses the CAFCR model as starting point. Qualities are used as orthogonal dimension to integrate the CAFCR views. Story telling is used to add specifics. Threads of reasoning combine all the information into a coherent overview.

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From vague notions to articulate and structured architecture description:

- articulated
- structured
- problem and solution know-how
- architecting vague notion of the problem
- vague notion of potential solutions

architecting method:
- framework
- submethods
- integration methods

architecture description:
- articulated
- structured
- problem and solution know-how

Overview of CAFCR and Threads of Reasoning

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AMO method
Overview of architecting method

**method outline**

<table>
<thead>
<tr>
<th>Framework</th>
<th>Customer objectives</th>
<th>Application</th>
<th>Functional</th>
<th>Conceptual</th>
<th>Realization</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>key drivers</td>
<td>use case</td>
<td>construction decomposition</td>
<td>budget</td>
<td></td>
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<td></td>
<td>value chain</td>
<td>commercial, logistics decompositions</td>
<td>benchmarking</td>
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<td></td>
<td>business models</td>
<td>mapping technical functions</td>
<td>performance analysis</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>supplier map</td>
<td>and several more</td>
<td>safety analysis</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**submethods**

- key drivers
- value chain
- business models
- supplier map
- stakeholders and concerns
- context diagram
- entity relationship models
- dynamic models
- use case
- commercial, logistics decompositions
- mapping technical functions and several more
- construction decomposition
- functional decomposition
- information model and many more
- budget
- benchmarking
- performance analysis
- safety analysis and many more

**integration via qualities**

- safety
- performance
- budget
- benchmarking
- performance analysis
- safety analysis and many more

**explore specific details**

- market vision
- a priori solution know-how
- use case
- detailed design

**reasoning**

- profit margin
- standard workstation
- memory budget
- BoM
- Moore’s law
- P’M’S’M’B’U”
- render engine
- CPU
- typical case
- typical price
- Build
- component
- goal
- diagnostic
diagram

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AMOoverview

Gerrit Muller
The “CAFCR” model

What does Customer need in Product and Why?

- Customer What
  - Customer objectives
- Customer How
- Product What
  - Functional
  - Conceptual
- Product How
  - Realization

drives, justifies, needs
enables, supports
Five viewpoints for an architecture

What does Customer need in Product and Why?

Customer What
Customer How
Application
Functional
Conceptual
Realization

Product How

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AMOintegratingCAFCR