Propositions Accompanying the Dissertation

by *Gerrit Muller* University of Southeast Norway-NISE
e-mail: gaudisite@gmail.com
www.gaudisite.nl

Abstract

This document contains the statements belonging to the PhD thesis *CAFCR: A Multi-view Method for Embedded Systems Architecting; Balancing Genericity and Specificity*.

June 5, 2018
status: concept
version: 0

logo
TBD

1. Methods for efficient CPU use

The importance of methods for efficient use

of CPU and memory

is underestimated by most software engineers.

For visions such as

ambient intelligence and *smart surroundings*

these methods are indispensable.

2. The importance of content

A big emphasis on process and methods of system design

happens at the expense of the content side of system design.

Process and method are only means

that cannot result in good products

without application domain know-how

and know-how of the applied technologies.

3. UML is counterproductive

In practice UML is a counterproductive means

for software and system design.

4. Generalizations obstruct

Generalizations are often an obstruction

for finding new solutions.

5. An architect must first learn an engineering discipline

It is for the functioning of a system architect essential

to have sufficient depth in a engineering discipline

and to actively maintain this discipline.

6. From *product as box* to a *network of systems*

In the medical market a lot of user flexibility

can be gained

by making a paradigm shift from *product as box*

to a *network of systems*.

The clinical practice becomes the focus point,

instead of technology,

while in the longer term a shift will be made to patient-centered.

7. Designers need empathic skills

To make human-oriented systems,

software and system designers need empathic skills,

to enter into the user's emotions, feelings, culture, and experience.

8. Measurement of the number of publications blocks

The measurement of the research results

by counting the number of publications

forces scientists to become more specialized.

Integrating research is therefore less attractive,

because it is more difficult to substantiate

and to publish.

9. Nature is a good source of inspiration

Nature is a good source of inspiration

to make more robust systems.

Systems that are designed by humans are,

due to the pursuit of unification and standardization,

more vulnerable than natural systems with a large diversity.

10. The Dutch youth welfare has problems

The youth welfare in the Netherlands can not cope

with the large group of children from

people without prospects and drug addicts.

This is ticking time-bomb threatening the Dutch society.

The causes are: over-specialism, too many reorganizations,

spending cuts en the pursuit of naïve ideals.