

Use of standards to develop rule-sets for model checking

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**IRCC, Bergen
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THE IMPORTANCE OF CARTOON CHARACTERS
DISCUSSING FORMAT IN ADVANCE

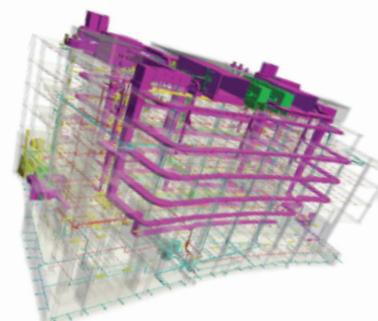


continue of....

- NS 3940
Area and volume of buildings
- NS 11001 Part 1 and 2
Accessibility

Standardized Computable Rules

Developed in cooperation with the National Office of
Building Technology and Administration, and Statsbygg
Standards Norway, December 2009



project report 2009

Concepts for model checking

- a) Validating systems
- b) Guiding systems
- c) Adaptive systems
- d) Content checking



Developing standards vs developing rule sets



.. standards have traditions....



Standards written in Norwegian

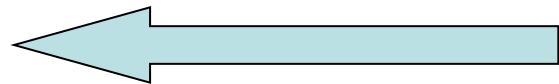


- Standards Norway is ...



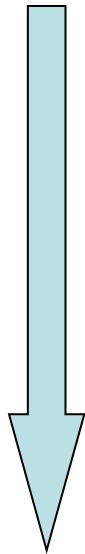
on Arabic

- پٹھ چھ چھ گی

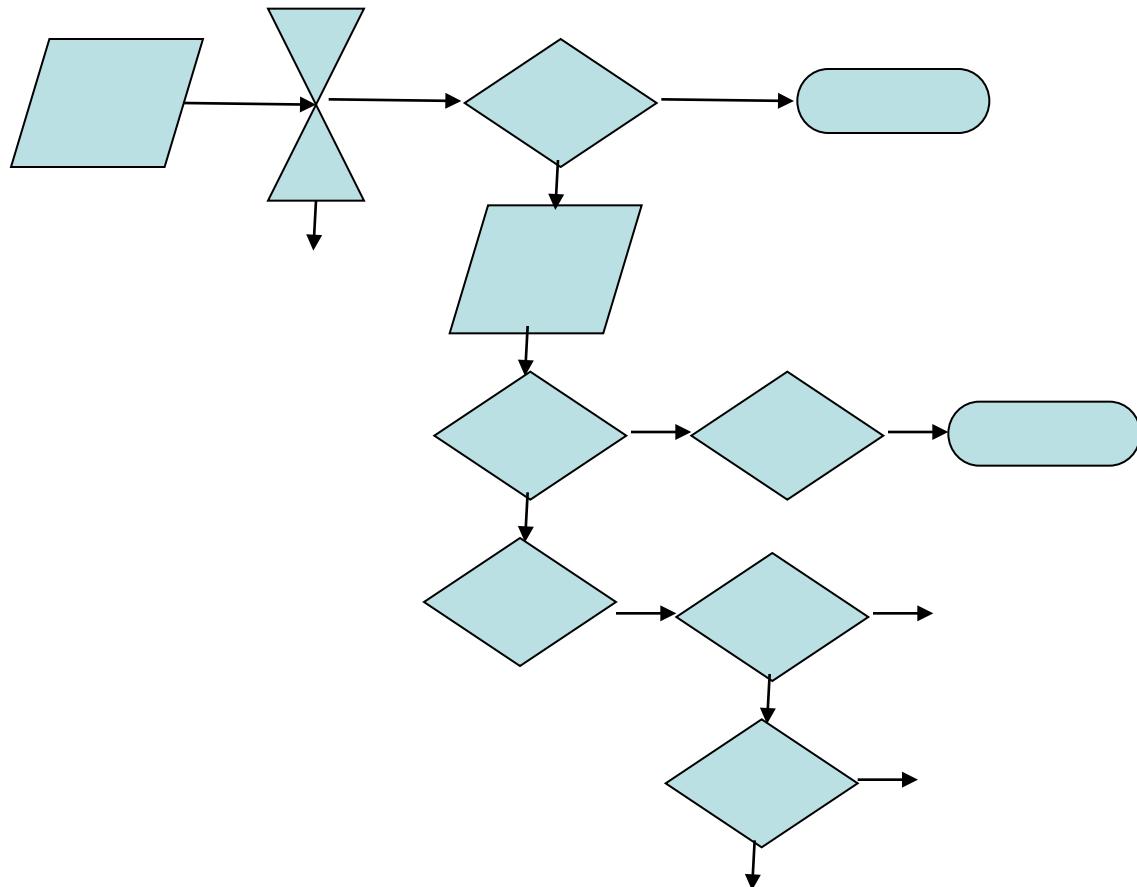


in Japanese

- 在ノルウェー日本国大使館



in "Rulish"





nettbutikk



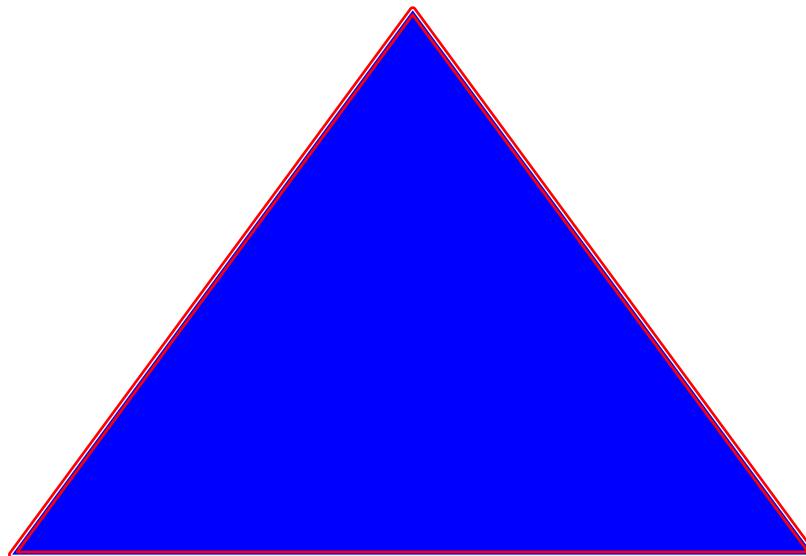
Vare	Pris
<p>NS 3491-1:1998 Utgave: 1 (09.12.1998) Språk: Norsk <u>Prosjektering av konstruksjoner - Dimensjonerende laster - Del 1: Egenlaster og nyttelaster (innbefattet rettelsesblad A1:1999)</u></p> <p>Kjøp denne standarden Levering: Webutskrift Post</p>	<p>340,00 Pr. hefte</p>
<p>NS 3491-1:1998 Utgave: 2 (09.12.2009) Språk: Rulisk <u>Prosjektering av konstruksjoner - Dimensjonerende laster - Del 1: Egenlaster og nyttelaster (innbefattet rettelse A1:1999)</u></p> <p>Kjøp denne standarden Levering: IFC 2x3 IFC 2x4 ruleXML Generisk kode (IDM BR)</p>	<p>34,00 Pr. lisens/ kontroll</p>

“Rulish”

Model checking



Code / regulation



Rule-set

Model
with information



Knowledge soup

- *Overgeneralizations.*
- *Incomplete definitions.*
- *Conflicting defaults.*
- *Unanticipated applications.*
 - These exceptions and borderline cases result from the nature of the world, not from any defect in natural language.

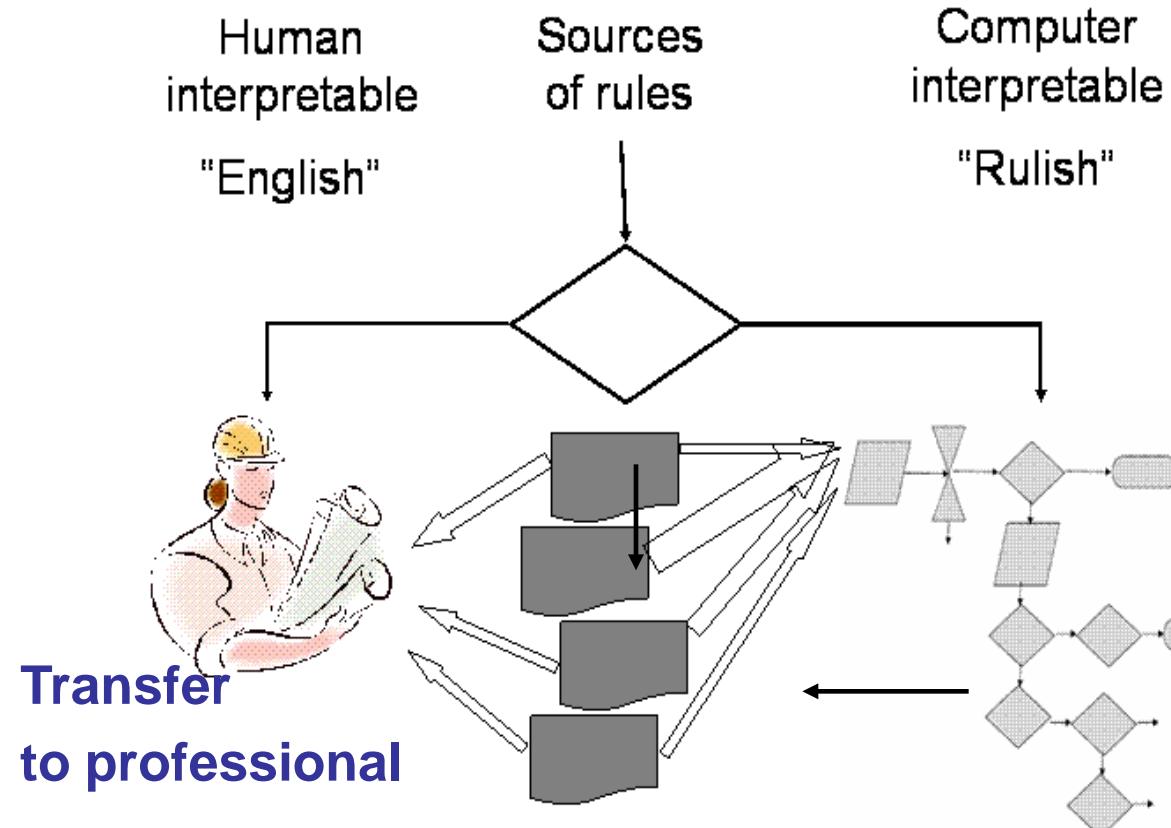
(John F. Sowa, 2000)



Making soup

- *Skilled chef*
 - *Knowing how to deal with information->knowledge*
- *Good ingredients*
 - *Wisely defined codes and regulations*
- *Restaurant*
 - - *a place where the chef present the ingredients for the costumer*
 - *BIM based model checker*





**Transfer
to professional**

How little must be done
this way?

Translate
unambiguous
information and
logic

or
Transform
"re-write" in a way which
solve the
professional problem

- How much can be translated or transformed?

‘If you do not exercise, you will gain weight’

$$\forall x[\{\text{Human}(x) \wedge \neg \text{Exercise}(x)\} \Rightarrow \text{Gain_weight}(x)]$$

Thanks for your attention!

- Questions?
- Eilif Hjelseth
- ehj@standard.no

- B Business models
 - I Information models
 - M Mental models
-
- Building Information Master = IRCC members



- time for a shift of paradigm?

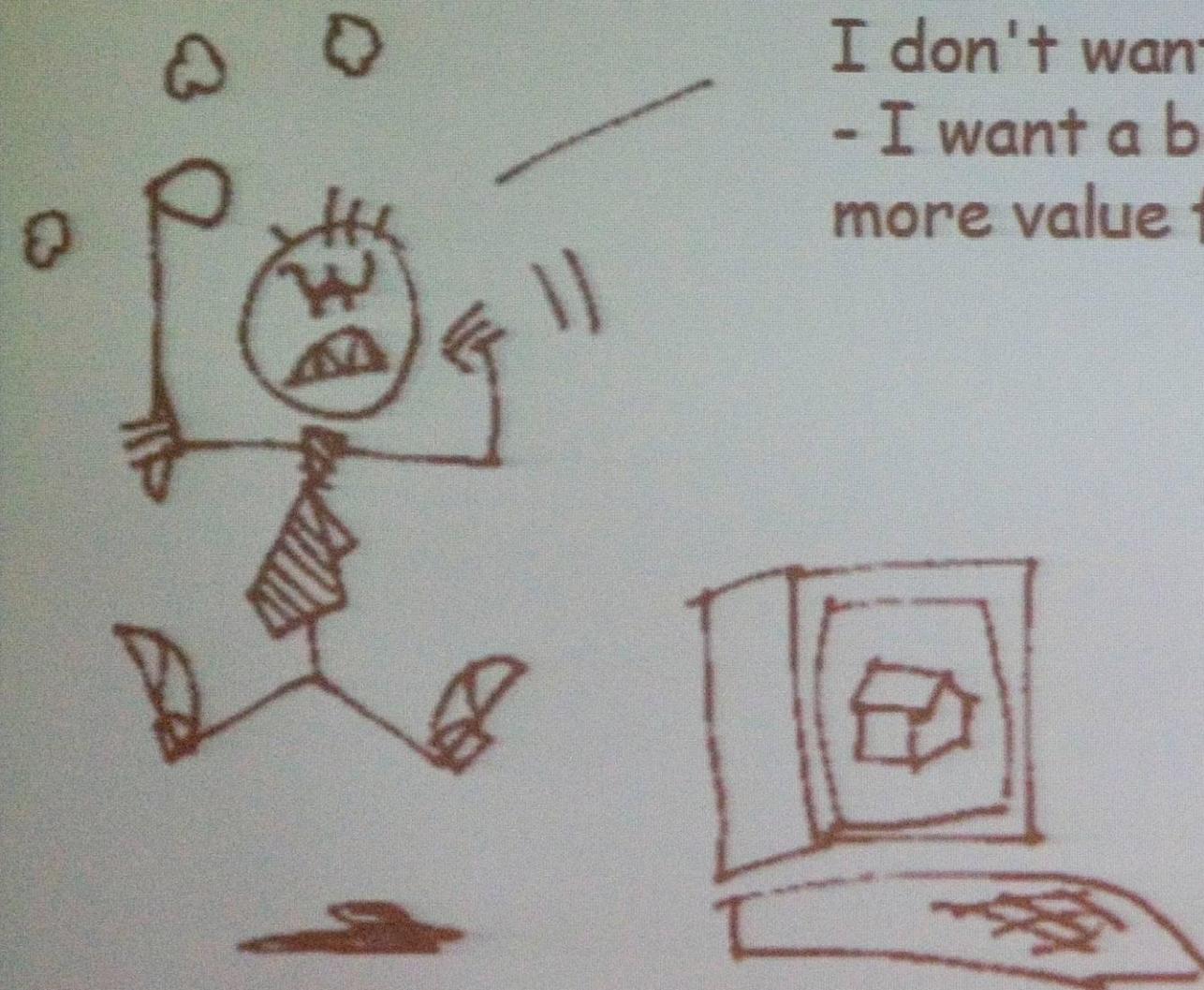


German Team Pursuit Bicycle Prototype
de name "Nees-R-Gon 1"



Spokes ——front, 20 radial disks

MART i utdanningen



I don't want a better model!
- I want a better house and
more value for money!

Building Information Modelling



...

- ... is the creation and use of coordinated, consistent, computable information about a building project in design, in construction and in building operation and management.

coordinated

consistent

computable

information

