

## Demonstration of information system prototype derived from relational specification

**Navigate the conceptual model** See the conceptual diagrams, figures 3.1, 3.2 and 4.2, in the functional specification of the context *VIRO*. Concepts are vertices; relations are edges; relationships are not represented.

### Edit relationships

- $$\begin{aligned}
 & \text{caseFile} : \text{Document} \sim \text{LegalCase} & (1) \\
 & \text{'doc987384' caseFile '199902238'} & (2) \\
 & \text{'doc763820' caseFile 'AWB 07/2481 WRO'} & (3) \\
 & \text{'letter 2009/87743' caseFile 'SBR 02/74331'} & (4) \\
 & \text{'letter 2009/87743a' caseFile 'SBR 02/74331'} & (5) \\
 & \text{'schedule 2009/87743.1' caseFile 'SBR 02/74331'} & (6)
 \end{aligned}$$

*'doc763820' caseFile 'AWB 07/2481 WRO'* has the purpose to mean: *doc763820 is a document in the case file of case awb 07/2481 wro.*

**Maintain invariant rules** The next law text is used to demonstrate the prevention of a violation of this juristic rule.

*An appeal lodged against a decision of an administrative authority of a province or municipality, or a water management board, or a region as referred to in article 21 of the 1993 Police Act, or of a joint body or public body established under the Joint Arrangements Act, falls within the jurisdiction of the district court within whose district the administrative authority has its seat. (art. 8:7 par.1 Awb.)*

Invariant rules are relations declared as rules. Properties of relations, e.g. univalence, are invariant rules which have a shorthand syntax.

- $$\begin{aligned}
 & \text{appeal} : \text{LegalCase} \sim \text{LegalCase}(\text{symm}, \text{antisym}) & (7) \\
 & \text{defendant} : \text{Party} \sim \text{LegalCase} & (8) \\
 & \text{adminAuthAwb87} : \text{Party} \sim \text{Party}(\text{symm}, \text{antisym}) & (9) \\
 & \text{domicile} : \text{Party} \sim \text{City}(\text{univ}) & (10) \\
 & \text{jurisdiction} : \text{City} \sim \text{Court}(\text{univ}, \text{total}) & (11) \\
 & \text{broughtBefore} : \text{LegalCase} \sim \text{Court} & (12) \\
 & \text{RULE } \text{appeal} \circ \text{defendant}^{\sqcup} \circ \text{adminAuthAwb87} \circ \text{domicile} \circ \text{jurisdiction} \Rightarrow \text{broughtBefore} & (13)
 \end{aligned}$$