# Paella: A support tool for debugging of ontologies*

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In [1] two mereotopological interpretation were introduced. The Strong one is based on the use of Region Connection Calculus (RCC) [3] as a metaontology and the intended meaning of $C(x,y)$ is that *exists a common element in the concepts* $x,y$ *in some model $I$ of the ontology.*

**Definition 1.** (Strong Interpretation of RCC as a metaontology) *Two concepts* $C_1, C_2$ *of an ontology* $\Sigma$ *are* $\Sigma$-**connected** *(denoted by* $C_\Sigma(C_1, C_2)$*) if*

$$\Sigma \not\models C_1 \sqcap C_2 \equiv \bot$$

And the weak interpretation:

**Definition 2.** *A* **spatial interpretation** $I$ *of* $\Sigma$ *is a interpretation in the language of* $\Sigma$*, such that* $I : concepts(\Sigma) \cup indiv(\Sigma) \rightarrow \Omega$*, where* $\Omega$ *is a $T_3$ connected topological space such that* $I \models \Sigma$ *and for each* $C \in concepts(\Sigma), I(C)$ *is an open regular set in* $\Omega$ *and for each* $a \in indiv(\Sigma), I(a)$ *is a point. A* spatial model *of* $\Sigma$ *is a spatial interpretation which is a model of* $\Sigma$*.*

First interpretation is based on Description Logics reasoning services, while the second is based on qualitative spatial reasoning and spatial representation of relationships between concepts. However, due to a result of Renz [2], if an spatial interpretation exits, then exits one at euclidean space. As concept structures are in ontologies, its easy to find an interpretation with a special feature, it can be graphically represented in not a really hard way.

This talk will describe how both interpretations are applied to build a tool for ontologies visual repairing(anomalies). Specifically, we will characterize the ontologies from Formal Concept Analysis and OWL specified, by means of three different Paella versions: Dummy, Tiny and Full.

# References

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