

Departamento de Informática

Knowledge Representation

Knowledge and Information Systems Group



CENTRIA



José Júlio Alferes

(Professor)

ECCAI fellow

Degrees:

1993: PhD in Computer Science from UNL

Objectives

Representing knowledge, and developing algorithms allowing to draw conclusions out of that knowledge (reason) are central issues in the implementation of systems that exhibit **intelligent behaviour**.

Such an intelligent behaviour is demanded e.g. when doing diagnosis of complex systems, or to plan activities under real situations, or to automatically find, share and combine knowledge in the Web.

The objective is to develop languages for representing knowledge, and tools for performing reasoning, that are especially tailored for dealing with the complexity of Web data.

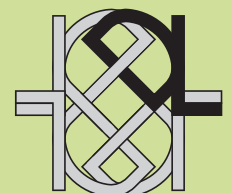
Methodology

The knowledge representation and reasoning mechanisms are approached by using **formal logic languages**, but always driven by applications needs, and tested with implementations.

Particular focus is given to the needs of combining data available in the Web, dealing with the highly dynamic aspect of such data, and to keeping efficient the algorithms for doing so, even at the expense of some expressivity if required.

Expected Results

- **Languages** for describing content of **Web data**
- **Tools** for querying and combining data represented in the Web
- Languages for expressing the **dynamics of knowledge** in the Web, and reactive behaviour of Web sources
- Implementations for integrating the dynamic aspects of data with **Semantic Web** tools



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MINISTÉRIO DA EDUCAÇÃO E CIÊNCIA

ERRO.
efficient reasoning with
rules and ontologies