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Legal Aspects for Digital Preservation Domain

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We propose a legal ontology for the digital preservation domain.

Ontologies describe a domain model by associating meaning to its terms and relations. The importance of this technic is evidenced by the growing use of ontologies in a diversity of application areas.

This unifying **Legal Ontology** is intended to function as a lingua-franca to facilitate the translation and mapping between different perspectives, as well as reasoning and inference over legal information in the domain of digital preservation. Next, the legal ontology was validated by a set of competency questions through two specific case study. This validation was processed with reasoning methods.

Work in progress is focusing on the application of this approach to multiple scenarios...

Law is becoming an essential application domain for technology developments. In case copyright protected data has to be digitally preserved, every process of a digital preservation system may violate this right, when the rights holder who has the exclusive rights did not grant the relevant rights of use.

We developed a **Legal Ontology** that provides a hierarchical overview of how legal constraints and obligations (e.g. IP rights and licensing issues) could be implemented in an automated process of a digital preservation system.

In simply terms, difficulties with legal taxonomies may arise when the creators and the users don't share the same perspective. This would be the case when the creators of the taxonomy are lawyers and the users not. Legal taxonomies for digital preservation can be represented with ontologies which are an explicit account of a shared understanding in any domain.

Through the use of ontologies the communication can be improved, which, in turn, can give rise to greater reuse, sharing, transparency, and inter-operability.
Every digital preservation activity must ensure the authenticity and legitimacy of the performed actions and processes. Hence to validate the correctness of our legal ontology we used a set of competency questions defined in a specific case study. The goal is to obtain a clearer taxonomical view of the necessary legal knowledge that will address the concerns of industrial use-case digital preservation stakeholders.

Therefore, we recommend using the **Legal Ontology** for the digital preservation domain, in order to integrate different legal perspectives and perform reasoning and inference over legal knowledge and information.

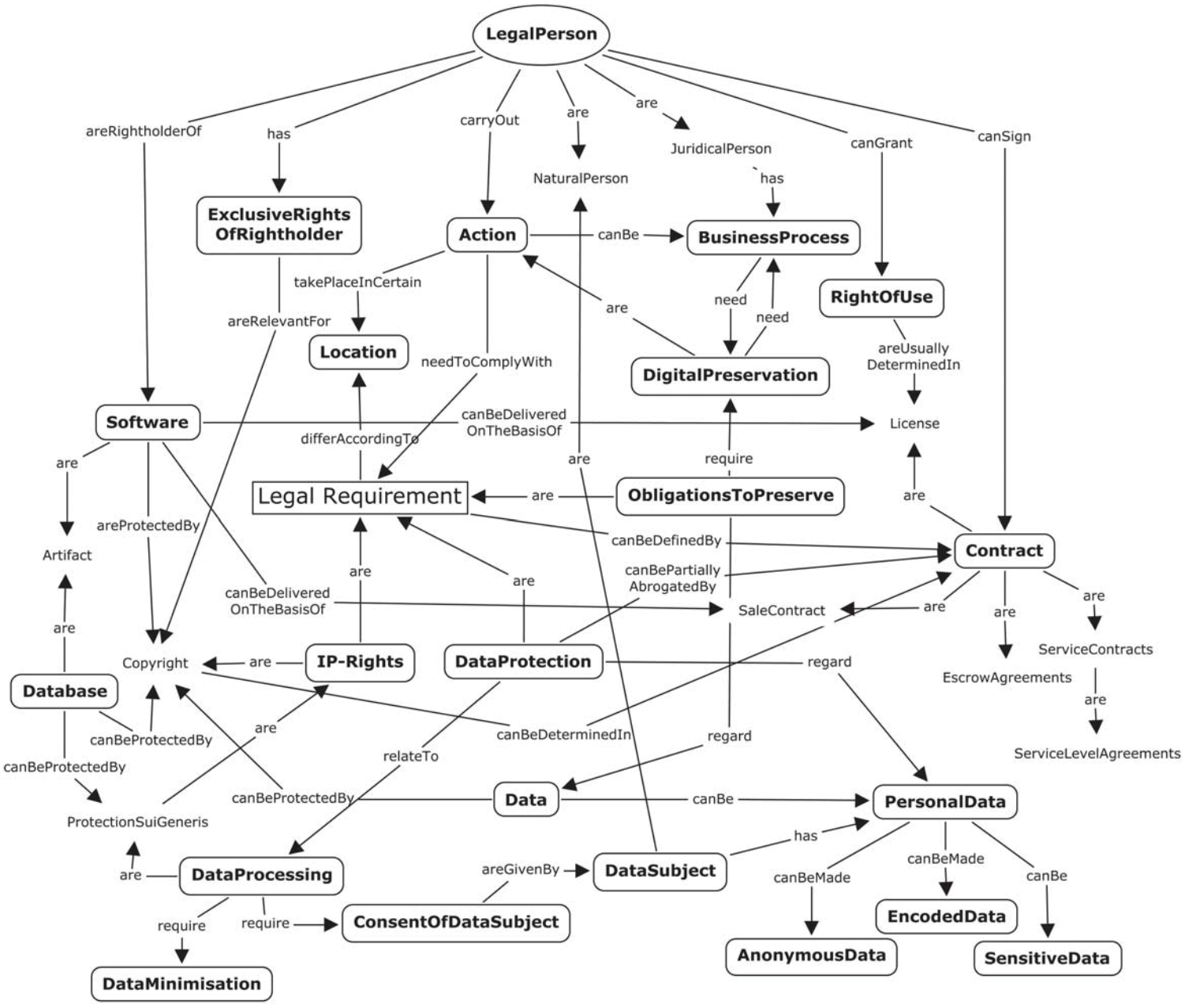
Ontology is an explicit formal specification of the terms in a domain and relations among them – basically similar to a taxonomical representation of a class hierarchy in a given domain. Ontologies describe structure and hierarchy.

Ontologies play an important role in knowledge sharing in the field of knowledge representation and reasoning The ontology building process is a craft, rather than an engineering activity. The steps include:

(1) identification of the concepts and concept hierarchy
(2) identification of the disjoint concepts
(3) modeling composition
(4) addition of all the relationships between concepts
(5) identification of definitions
(6) addition of annotations
(7) and refinement of the ontology through various iterations of the above steps.

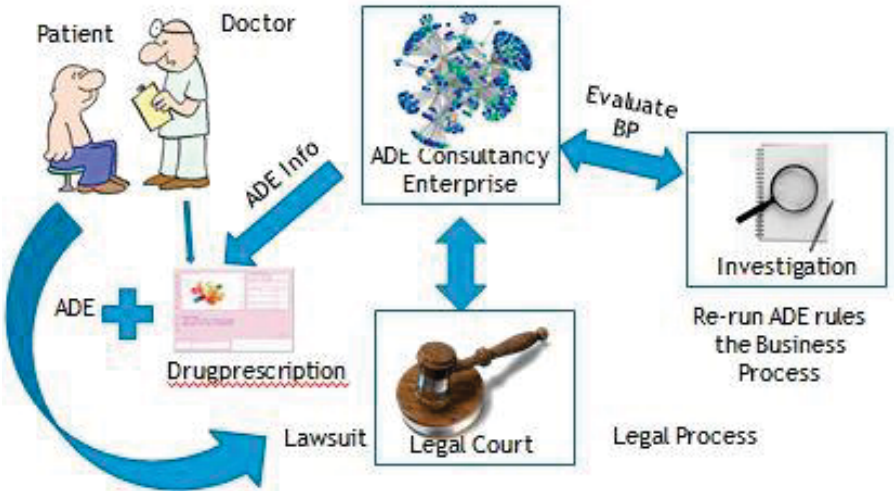
Most ontology building methods propose iterative approaches in order to allow formalization to be accomplished progressively.

In this work, we followed an iterative approach by using conceptual maps as a "bridge" between the legal taxonomy and the formal specification. For the first phase, the concepts and their relationship were drawn in a Conceptual Map model which depicts a representation of the conceptual map used to develop our Legal Ontology. We can see a conceptual map of the legal perspective. In this description the concepts are written in bold and the relationships are in italic.



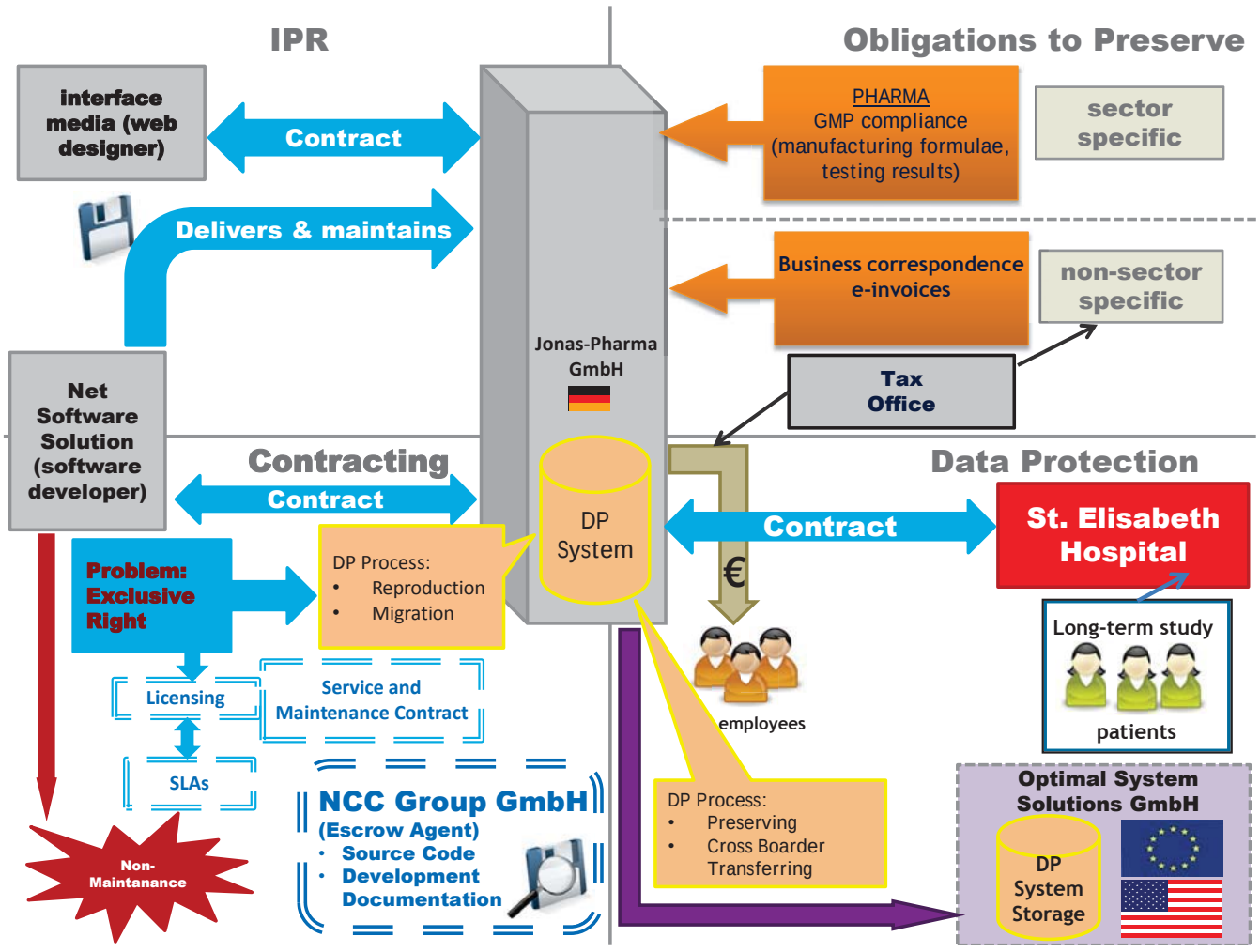
A case-study of an e-Health scenario

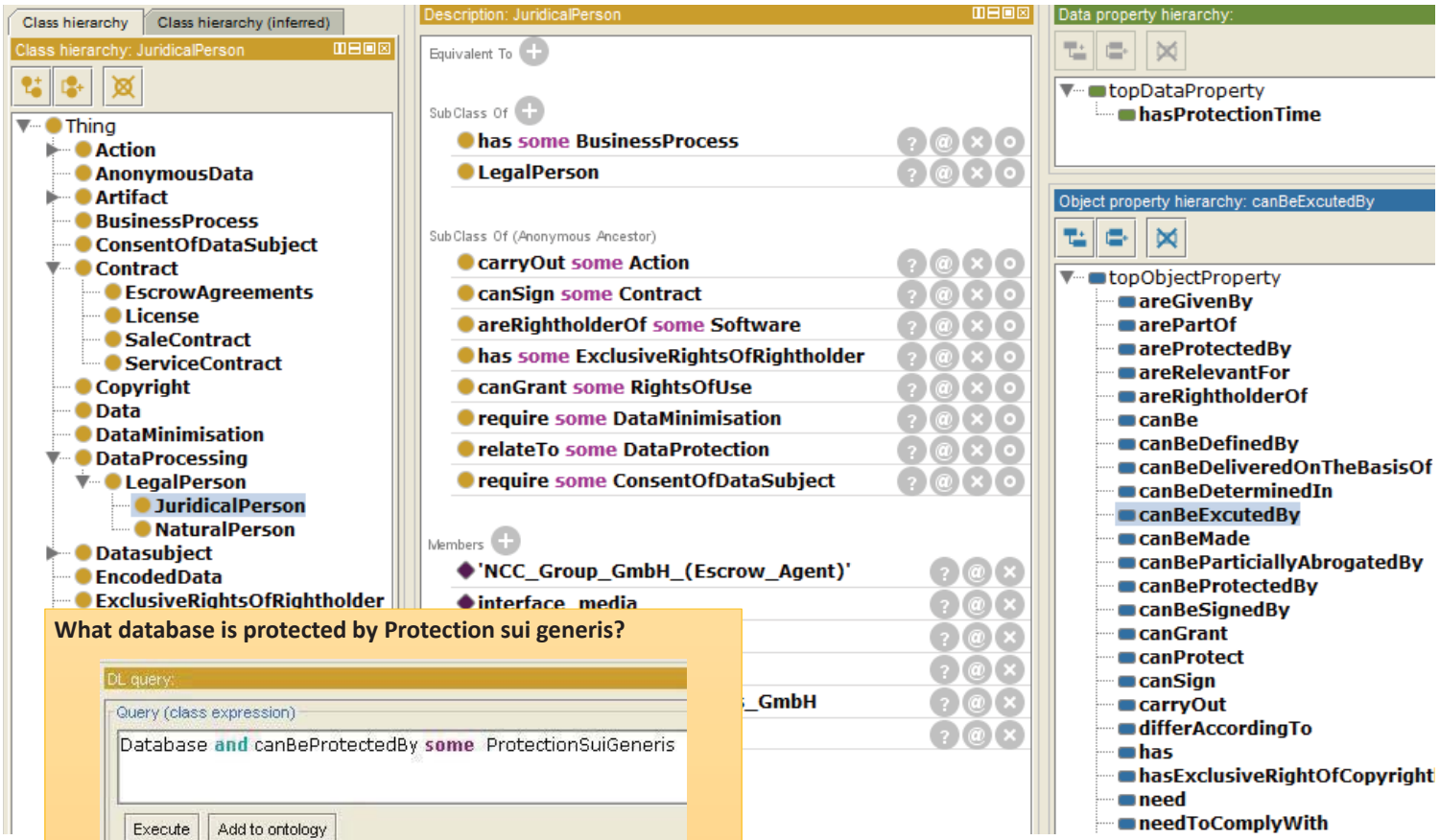
It is concerned with addressing the ADR problem by providing a web-based solution for discovery and search of ADE (Adverse Drug Event) rules used by doctors and pharmacists for prescribing drugs.



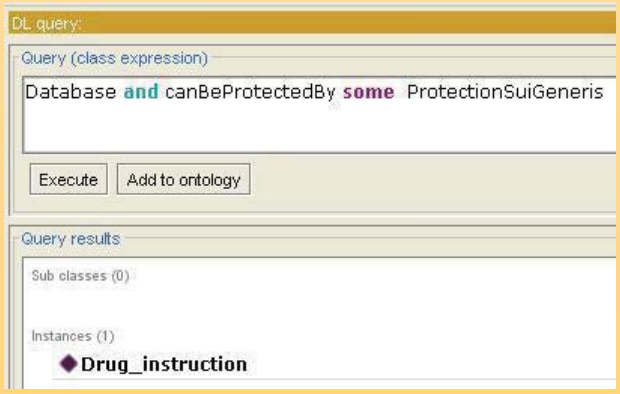
A case-study in pharma

Jonas-Pharma GmbH is a Pharmaceutical Company with its headquarters in Cologne and enters into a License Contract with a Software Development Company, Net Software Solution, in order to use the software Iris created by that Software Development Company. The Jonas-Pharma GmbH wants to digitally preserve the relevant data of their business processes including the software Iris. Consequently, the necessary rights of use must be granted in the License Contract. The rights of re production and migration and alteration are essential for digital preservation. In the given scenario, the necessary rights are not explicitly included. Consequently, an amendment agreement is required granting the necessary rights for digital preservation. The software Iris is copyright protected. Copyright belongs to the IP-Rights.

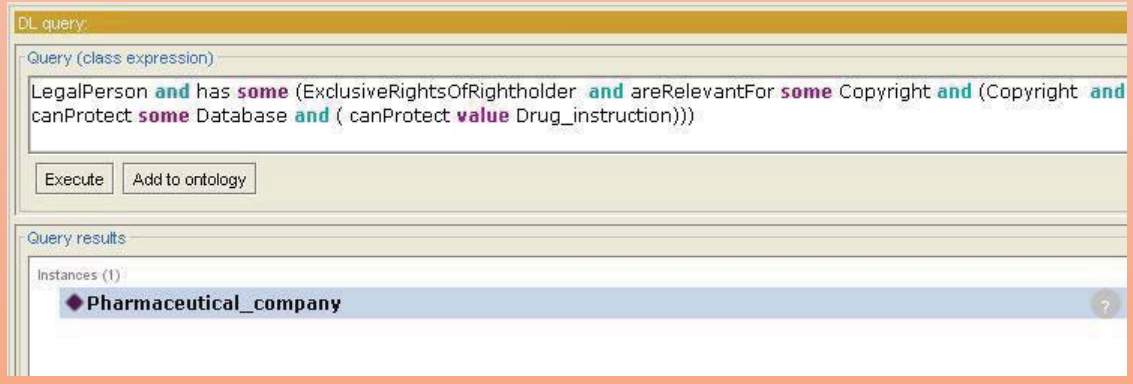




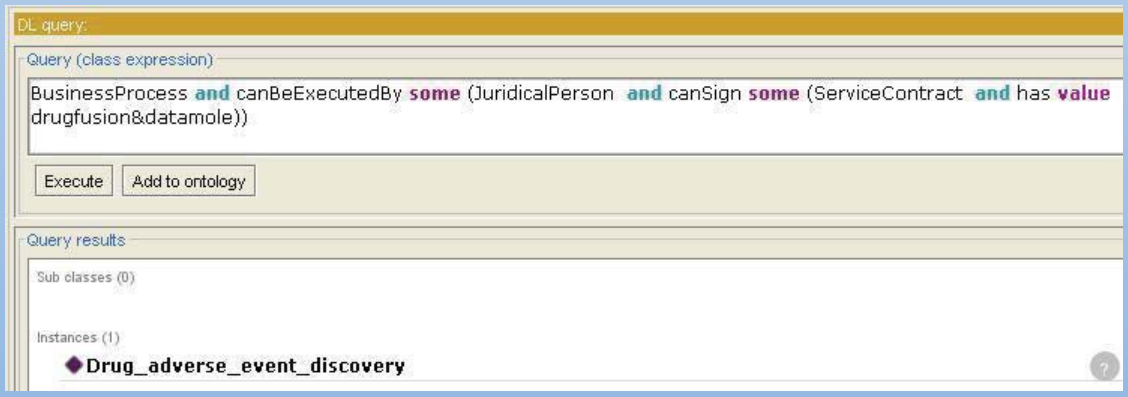
What database is protected by Protection sui generis?



Who has the exclusive right of the copyright holder for the Drug Instruction database?



What is the business process that exists between the DrugFusion & DataMole company?



This work was supported by national funds through FCT (Fundação para a Ciência e a Tecnologia), under projects Pest-OE/EEI/LA0021/2013, TAGS PTDC/EIA-EIA/112283/2009, and by the project TIMBUS, co-funded by the European Commission under the 7th Framework Programme for research and technological development and demonstration activities (FP7/2007-2013) under grant agreement no. 269940.