Use Case: Helping New Judges Answer Complex Legal Questions

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General Description

The General Council of the Judiciary is the third power in Spain, and is responsible for the professional education of judges and for the operation of the judicial system. Becoming a judge in Spain requires passing an open, competitive exam, where many candidates apply and few are accepted. Having passed the exam, candidates immediately become judges, and have all of the corresponding obligations and responsibilities.

The problem

A nationwide survey on newly recruited judges identified the most frequent problems that incoming judges typically face in their first appointment. Many problems were related to the on-duty period, when a judge and its team is responsible 24×7 for all things that happen in the jurisdiction. For example, if a corpse is discovered at a home at 2am, and ten thousand euros is found during the legal search in a drawer in the bedroom, what should the judge do? In such cases, where experience and pragmatic knowledge is required, a newly appointed judge usually asks a peer or a more experienced judge for professional advice. This traditional way of sharing and distributing judicial knowledge may be uncertain (contradictory solutions may coexist for the same problem) and it slows down the performance of the legal system.

The solution

As a solution to this problem, we have built an intelligent FAQ system containing over a thousand frequently asked questions, along with their corresponding legal answers. The questions and answers contain judicial expert knowledge and are based on another survey with more than 400 judges from all over Spain. The system (Iuriservice) offers support for two different judicial needs: 1) a FAQ search system, and 2) a case law search and browse system. The FAQ search system permits the user to search a database of stored question-answer pairs using a natural language interface, and the case law tool offers a search and browse application for databases with judicial decisions. In a typical scenario, a judge first searches for answers to a question, and the answers usually provide clear clues for what to search for in the jurisprudence database.

In order for the FAQ search system to find the question-answer pair that best matches the input question, the system is enhanced using ontologies. The first step performs topic detection of the input question and classifies the concerned question in different sub-domains, using statistical techniques. The second step is the search process, which searches in files, databases and other document repositories, using search strategies such as, morphological, synonyms, orthographic and semantic search (based on semantic similarities). In this way, questions are retrieved, based on their legal meaning, rather than on matching keywords. The legal meaning is defined in ontologies.

Figure 1: FAQ search system

The case law tool offers a search and browse application for databases of judicial decisions also through the use of ontologies. This application allows judges to search using different fields such as: the judicial organization, the judicial topic, jurisdiction, deponent, dates, decision number and some ontology terms. This subsystem is similar to other existent judicial databases, but performance is improved by the use of semantics that allows query expansion with ontology terms.

Figure 1: Case law tool

The Iuriservice system has been tested with several groups of judges, and is currently being deployed in the Spanish Judicial School in Barcelona for extensive testing with final users.

Key Benefits of Using Semantic Web Technology

Main benefits for the Spanish General Council of the Judiciary include

- Management of professional and pragmatic knowledge relevant for judges performing their daily jobs
- Fostering consistency in judges decisions based on an accumulation of relevant knowledge
- Shortening of time between newly appointed judges being aware of a situation and their corresponding action taking
- Knowledge management (retrieval of questions and jurisprudence) based on an "understanding" of the content rather than of keyword matching