An Applied Legal Ontology in Arabic for the Jurisprudence Decision-Structuring

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ABSTRACT

The general context of the authors’ work is the development of a system of research of Tunisian jurisprudence in the Arabic language. The operational objective of this system is to provide assistance to lawyers to resolve a given legal situation in making available a collection of similar situations which will improve their future reasoning. A legal ontology, describing the semantics of the textual corpus of decisions, is necessary at different levels of construction and use of the system. In this paper, the authors are interested in the first phase of the development of this system, which is the decision structuring.

Keywords: Decision Structuring, Extraction Pattern, Jurisprudence, Legal Ontology

1. INTRODUCTION

In law, the documentary corpus remains predominantly composed of texts. The outcomes of the private publishing world are largely enriched by keywords and summaries. Currently, Information retrieval tools facilitate these enrichments. But these corpuses, because of their cost, are available only to a limited number of users. Free Accessible texts still mostly lacking these documentary enrichments. In the case of Tunisia, two sources of jurisprudence are available: journals and collections which are periodically updated. The Tunisian jurisprudence database, set up in 2009, consists of 12000 decisions of the Court of cassation since 1959. This database is accessible via the Tunisian portal of justice and human rights1. According to lawyers, checking up journals is very time-consuming. Searching in the jurisprudence database, does not guarantee the recovery of useful documents because it is usually based on simple search criteria. In this context, we propose to develop a system of research of Tunisian jurisprudence taking into account the advances in the field of information retrieval including the use of semantic resources such as a legal ontology in the Arabic language. This system provides for Tunisian lawyers time saving and more relevant results. The ontology which describes the semantic content of the textual sources of jurisprudence is deployed at several levels: improve the results of decision

DOI: 10.4018/IJKSR.2015010103
structuring, facilitate the formulation of queries when accessing the system and finally optimize the search of decisions. In this article, we are mainly interested in the structuring of decisions. We shall begin with introducing the context of our work, and then presenting an overview of the used approach to build the legal ontology. Then we expose the interest of thematic structuring of documents and some related works. Finally, we shall expose our method for decision structuring.

2. CONTEXT

A jurisprudence decision is presented as a textual document of two to five pages. Decisions share a regularity of content. When he reads a decision, the lawyer takes quite a long time to define its parts and determine the part or parts that are most interesting and can help him to solve the new problem. Unlike case law retrieval systems that currently exist, the method we shall suggest henceforth will present decisions not in their original text states but rather in a structured format.

In this article, we present our approach for decision structuring. The methodology adopted in this work consists of a set of ordered steps: Step1: training corpus construction with different types of decisions and manually annotated by experts; Step 2: Analysis of this corpus in order to define the patterns; Step3: decisions structuring.

Our study corpus is composed of 600 decisions of the cassation Court, available on the Tunisian portal of justice and human rights. The analysis stage was carried out in close collaboration with legal experts to determine how to structure a decision. Read a decision, is not always clear. Fluency is acquired over the experience. When reading, the lawyer review the decision in a comprehensive manner, and attempts to recognize the descriptive blocks and the reasoning blocks. Descriptive blocks describe facts and the legal actions. Reasoning Blocks are the step in which the judge uses the facts to reach a decision in law. Fifty decisions of different types (civil, administrative, criminal, etc.) were analyzed in order to identify regularities in their content. An organizational structure has been defined. A decision is composed of:

- **General Information:** it describes some information such as number, type (civil, administrative, criminal), date of publication, the volume in which it was published, legal references cited and key-words.
- **The Principle:** It often contains the essential of the judgment. It is usually described in an abstract form without considering the facts of this case but can be specially adapted to the solution and thus provide clarification.
- **Introduction:** It describes the decision of the court and can answer the questions “who?, Did what to whom?”
- **Facts:** They represent all the reasons for the referral of a judge.
- **The Appeal Means:** They set out concisely criticisms of the contested decision.
- **The Legal Reasoning:** It is the essential part of the judgment. The judge gives his argument and justification of any solution. They are generally of two types: The first sanction an error of law and lead the court to review the legality of the decision. The others penalize the defective reasoning and lead the Court of Cassation to control the rationality of the decision such as the lack of legal basis, insufficient reasons and annoyance reasons. Sometimes, the Court combines several ways to analyze them together.
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