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Expert systems with applications in the legal domain

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Abstract

The most controversial aspect of the collaboration between computer science and legal sciences remained for about two decades trying to develop programs capable of simulating specific work of a lawyer or judge. An electronic platform will be designed, a new tool for prisoners, lawyers and economic environment. Information retrieval system will be different, the DSpace open source information system will be used, will be in touch with legislative database.

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1. Introduction

Artificial intelligence is considered especially effective in areas such as forensics, criminology, data acquisition and processing, research and searching the Internet crime, analysis of samples, etc. The most controversial aspect of the collaboration between computer science and legal sciences remained for about two decades trying to develop programs capable of simulating specific work of a lawyer or judge. This software is called legal expert systems. It could, however, be called as appropriate, "computerized legal adviser", "automatic generator of legal documents" or "electronic manual as" etc. They fall into a wider field - Expert systems - a field that is operated by many different

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applications, from managing industrial processes up to computerized medical diagnosis. Expert systems are computer programs that meet the complex tasks at a level close to that of human experts^[1].

In the information society, the e-services designed for citizens with respect to legal information are provided by platforms available online that allow quick access, based on authentication, to an impressive collection of legislation, case law and legal doctrine. These can be accessed from the office or courtroom, on smartphone, tablet or laptop and quickly identify, at any time or place, the information needed.

For example, iDrept and Sintact platforms offer the following modules:

- Synthetic Moment/Synthetic Act Technology – allows the automatic development of the consolidated form of any legislative act of the Romanian and European legislation, for any date, with amendments automatically inserted directly into the text
- Smart search with ranking – Google search
- Advanced searches – searches by predefined criteria
- Methodological rules inserted in the text of the legislative act
- Comments inserted in the text of the legislative act
- Ability to annotate the text of law
- Detailed information about the act: links to other legislative acts and documents from the other sections
- Customizing the iDrept account: my account, browsing history, favourite documents.

Furthermore, another example is Indaco, which provides analysis and design services for software documentation systems (in areas such as legislation, case law, standardization), case management and documents (e.g. for the Justice - Courts system and Prosecutor's offices), archiving and document generation (used in the government system, standardization), the social area (informing citizens, adoptions etc.). Certified Microsoft partner, Indaco has specialised in the development of software applications using Microsoft platforms. The company has developed and implemented computer solutions using also open source software for Linux-based systems. Indaco revolutionizes the legislative documentation by the newest legislative documentation service, Lege5 Online, which is available in the commercial version. It addresses lawyers, legal experts, accountants, tax consultants and those only interested in the legislative area, any legislative regulation being found due to Lege5 service, by access to the Indaco legislative database, anywhere and anytime, both on desktop computers and laptops, as well as on mobile devices: tablets, smartphones, eBook Reader.

Functionalities that rank Lege5 Online first among legal products and which are not found in the competing products: Smart search – by simply entering the terms in the search base, the desired results will be instantly displayed, by relevance; Legislative history – because most of the information is visually received, the Legislative history is the ideal tool that helps synthesize information about the act under study in an original and quick way; Versioning and comparing articles of law and correlating legislative acts at article and paragraph level; Tax calendar – the calendar of tax liabilities totals all statements or forms to be filed and payments to be made to the competent bodies, during the financial year; Comments of experts – consultants with high professional competence in the legal, tax, accounting areas, provide expertise for a thorough understanding of parts of the documents and legislative acts existing in Lege5.

Working groups/Personal comments – Lege5 is the only legislative application that reinvents teamwork. The resources made available are numerous: analyses, forum, articles, internal messaging, personal comments and comments on the legislative acts of interest, at paragraph level.

Sintact is an offline legal information platform specially designed for the activities of documentation and study of law, case law and doctrine. Its complex functionalities allow obtaining maximum relevant information, quickly and efficiently. It is recommended to practitioners – lawyers, judges, notaries, economists or other professionals in the legal and economic area – for the complexity of the information provided.

iDrept is a legal information platform available online that allows quick access, based on authentication, to an impressive collection of legislation, case law and legal doctrine. iDrept may be accessed from the office or courtroom, on smartphone, tablet or laptop and quickly identifies, at any time or place, the information needed. The iDrept module contains the Romanian Legislation (fully the Official Gazette Part I and most of the acts before 1990) and the European Union Legislation (fully the Official Journal of the European Union L series since accession, the entire Special Edition for Romania and the important acts before accession).

All these services are provided against payment and are accessible to info-documentary and relevant institutions which afford the acquisition of such modules.

Unfortunately, public or university libraries do not provide access to these platforms.

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