Group of Advanced Databases

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LABDA



The Group of Advanced Databases, LABDA, is composed by a multidisciplinary team of PhDs and professionals in the field of information technologies.

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We have a long work experience providing tailor-made solutions for the advanced management of information in organizations doing business in environments as diverse as finance, public administration and distribution, among many others. We work in close collaboration with a great number of companies to which we provide integral services of R&D, consultancy and advising; tailor-made developments on commercial software platforms; technology transfer and specialised training.

The efficient management of the different kinds of information that an organization handles involves extraction, compilation, storage, processing, optimisation, and use tasks. We employ sound methodologies for software development and the latest technologies in databases, data storing, data mining as well as linguistic technology for the processing of unstructured information and information access.

A recent collaboration started with the company Daedalus S.A. (www.daedalus.es), expert on the advanced management of knowledge, is a very interesting aspect of our group. This company was created by specialists and lecturers from UPM (Technical University of Madrid) and associated lecturers from Carlos III University of Madrid with a common objective, namely, contributing to a larger implementation of the new information technologies in all business and industrial sectors.

READY FOR THE CHANGE?

Incorporating technological changes may be a difficult goal to achieve. It demands a high level of specialization and the appropriate means. Our group offers a highly qualified human team and the most advanced technical support for:

Designing and developing solutions for the treatment and exploitation of structured information. Most companies currently use techniques for the structuring, storage, sharing, recovery and exploitation of their information. These solutions have consolidated as basic elements for the appropriate operation of the company and provide strategic support in decision-taking. Our Group is expert in the advising to design and develop information systems, focused on databases systems.

Approaching and developing solutions for Natural Interaction applications. Nowadays, one of the most challenges is to obtain systems that imitate the human interaction for providing the universal access to the Information Societies. The LABDA group tackles problem through the human knowledge modelling that is implied in the human interaction and its implementation in impendent repositories supported by different Databases



technologies as spatio-temporal databases. We have participated in several national and international projects for creating Virtual Assistants focused on the dialog management with the user. We have also developed platforms to provide customized services to leisure, information, and assistant through the television with advanced functionalities for the communication. interaction and its implementation in impendent repositories supported by different Databases



Question Answering Architecture

Designing and developing solutions for Document Management, Knowledge Management and Information Integration. We master the most advanced techniques of Information Retrieval for information contained in large document corpora, as well as techniques of natural language processing for handling unstructured information (multimedia contents, documents in several formats) and information from different sources (Web, corporate and legacy information systems). We are experienced on developing applications incorporating language technologies for information organization and access. Among others we have experience with:

- Dialog systems in natural language for e-commerce assistants
- Multilingual information access tools by means of information retrieval, information extraction and automatic document classification.

Question answering systems that search focused information to requests in natural language from structured and unstructured databases.

OUR EXPERIENCE

The following are among our main customers and collaborations:

DAEDALUS (www.daedalus.es). We cooperated with this company in the European Cross Language Evaluation Forum (CLEF) for the evaluation of multilingual information access systems. ISOCO (www.isoco.com) and TMT Factory (www.tmtfactory.com) are also collaborated in some projects with us.

INNOVATIVE SOLUTIONS

We have come up with some novel and original solutions that are at the disposal of the interested companies and organizations:

Multilingual documents indexing and search tools. We have prototypes that characterize documents though diverse knowledge based statistical approaches for companies working with documents in different languages needing to access this information regardless the language used.

Spanish Question answering system which integrates several linguistic resources such as part-of-speech taggers, chunkers and named entities recognition. This system uses semi supervised learning for answer retrieval from text sources. The language adaptation and the application to several domains are also treated.

Advanced interaction solutions. With several knowledge models is possible to provide customized prototypes for introducing a complete natural interaction on any application system in an interaction domain. The models can be independently applied to enrich a specify interaction system.



Intelligent Tutor Interface



Cognitive Architecture of the Natural Interaction System.



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