EXPERT SYSTEM
LANGUAGE TECHNOLOGY

SERVICES FOR
Publishing business / Portals

The offer of Expert System for **publishing business** and **portals** is wide and ranges from technology to linguistic consulting, with wide margins of customisation according to the needs of the customer.

For the **publishing business** Expert System has matured ten years of experience in the development of:

- *Spell check programs for various languages*
- *Systems for the categorization of texts and the automatic information retrieval*
- *Conceptual search engines for documentation centres*
- *Search interfaces in natural language / query of services via Sms*
- *NetWatcher (Web monitor systems)*
- *Editorial services and archives administration*

For **portals**, Expert System has developed instruments for a fast data retrieval and for on-line customer support. In particular to the Web are successfully applied the following technologies:

- *Easy navigation toolbars*
- *Live chat support*
- *Conceptual search engines*
- *Web design*

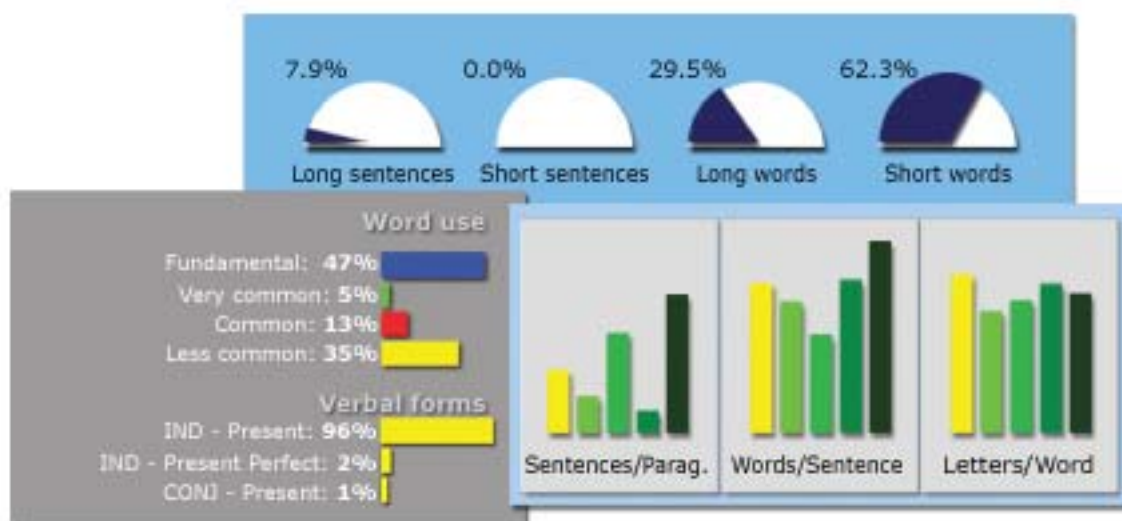# Expert System for the Publishing business

The **spell** and **grammar check tools** of Expert System are provided with advanced functions of text check, created expressly for the Italian language and adapted to fit other languages.

Some of the elements that make the performance of the Expert System check tools unique:

- faster text check;
- richer and more accurate dictionaries;
- verbs and enclitic particles, truncated verbs, redundant verb forms supported;
- words with apostrophes and dashes (which ordinary tools usually ignore), adverbs created from the superlative form, compound nouns, administration of the verb context supported;
- inflected forms completely supported;
- text statistics (readability indexes, sentence/paragraph/word count, lists of the words found in the texts, percentages of the verb forms used, etc...).

The Expert System spell and grammar check tool is integrated into the italian version of Microsoft™ Office, used by millions of people for their office work, a warrant of the reliability and solidity of the Expert System linguistic technology.

To further supply the check tools, Expert System has developed systems for the **statistical analysis of the texts**, which are really crucial for those who have centred their activity on the editorial work.

Systems for the categorization of texts and automatic information retrieval.

They are systems that realize an **automatic categorization of all the texts** received as inputs, interpreting the context and following predefined categorization trees on which basis the domain is established.
They perfectly fit the editorial activity, to archive information already divided according to the subjects.

Such systems perform automatically also the important activity of **retrieval of remarkable information such as** names of people, companies, places or other. The journalist, then, when writing an article, can search the news, captions, articles, all indexed according to the argument or can search places, or people mentioned in the news, recent events, etc... or any other kind of desired information. The essential work of these instruments, then, is retrieving information from simple unstructured texts and structure them to make them available for a profitable use during the editorial activities.

An important application**: the Rcs case**.
Rcs, thanks to the Expert System technology, automatically archives the dozens of articles that pass through the documentation centre, already labelled with the subjects (among 1300 domains) and the names contained in them. The journalists, when searching names and subjects, retrieve exact information in a few seconds.

Conceptual search engine for documentation centres

   The **conceptual navigation** through the eConcept documentation centres is essential to perform intelligent searches relying on the true meanings of the terms, rather than relying on single words which may not be significant to provide accurate search results.

   This kind of navigation allows, for example, in a cinema documentation centre, to retrieve titles of love stories, using the concept **"romantic"** or further terms and phraseologies which find the same concept, in progressive levels of investigation. If a film is labelled as "love story" or the description mentions "feelings", "tenderness", "affair" or "relationship", the set of the used terms, thanks to the complex text analyses, suggests which film titles are "romantic" in the human meaning of the term, leaving it to the automatic program to decide for us, in a few seconds, on huge amounts of text data.
   In fact the information that determine the concept of "romantic", in our case, is not retrieved from single words, but from a set of words and their respective links in the text (for example "the profitable **relation** between the two companies" doesn't determine a concept involving romanticism but economics terminology), individuated relying on the query to the Sensigrafo, the semantic net.
   Similarly, searching for **domains**, if the user is interested in retrieving information on cellular telephones, eConcept performs the search extending it to the concepts close to the main one: synonyms (mobile phone, cellphone…), "lower" terms in the hierarchy (Nokia, Ericsson, Panasonic, Sms, ecc…) o "higher" terms (mobile radiotelephony, etc…), everything without redundancy, but administrating in an intelligent way both search and storing.

   Searches in data bases can be performed in the easiest way, using natural language.

   The common denominator of all the solutions of conceptual search and storing is **semantics**.

Semantics and the automatic interpretation of texts

At the base of every text interpretation works the linguistic platform Cogito® of Expert System which features, among more modules, a **semantic net** named Sensigrafo which connects more than 350.000 terms of the Italian language and 150.000 of the English language (for example consider that a good dictionary has 100.000 entries approx.).
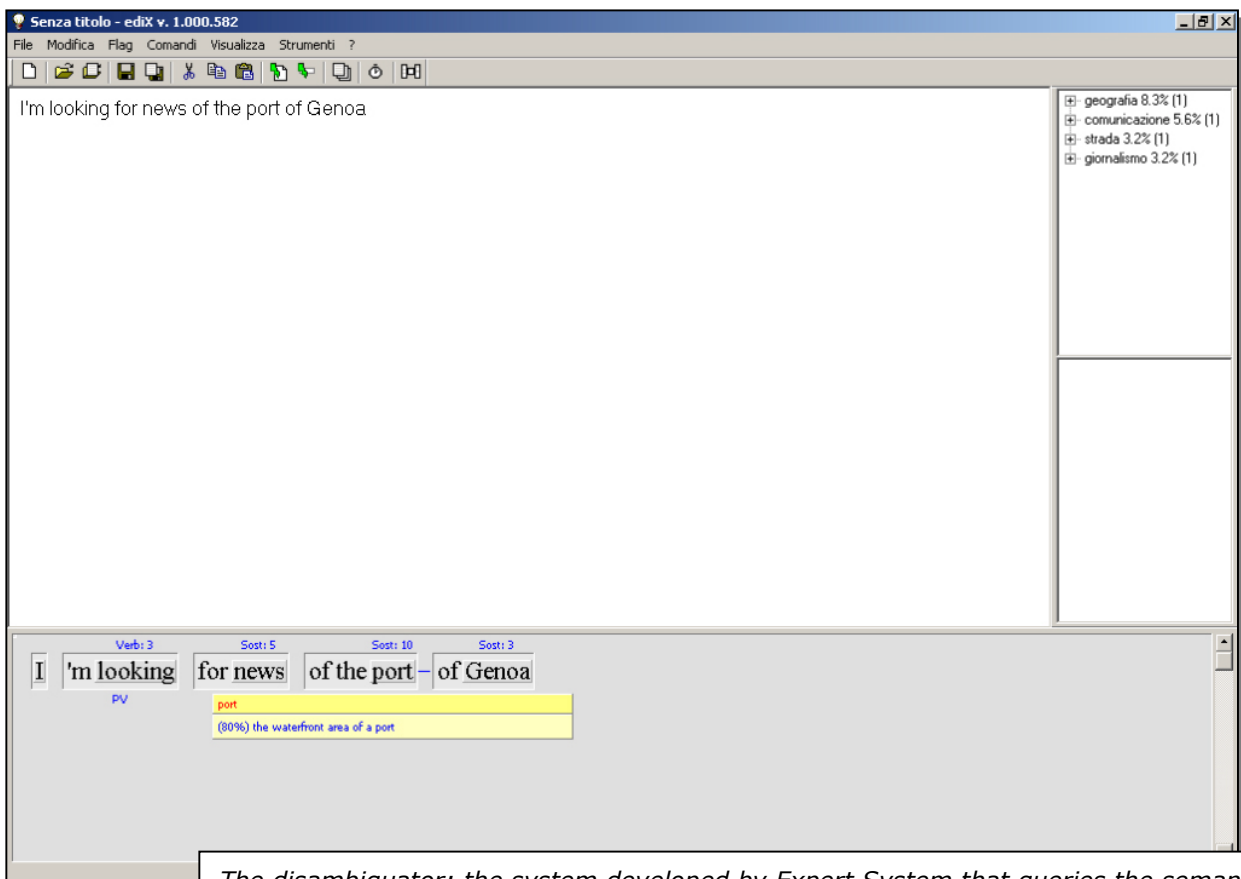
Semantic net, text analysis engines and the disambiguator work together to DISAMBIGUATE texts, that is to understand univocally the meanings, just as a human would do. That's the only way for an automatic system, be it e-mail sorting, FAQs answer or classification, conceptual search, to become a useful substitute of a human being.

Disambiguating: an example

A journalist may express a general question such as the following, searching in any archive, documentation centre, data base:

"I'm looking for news of the port of Genoa"

He may be writing an article on the town of Genoa or news and may need an introduction. The disambiguator of meanings, without any further information, finds out that *port* belongs to the *Geography* and *Navy* domain and that it means the *harbour* were boats are docked.
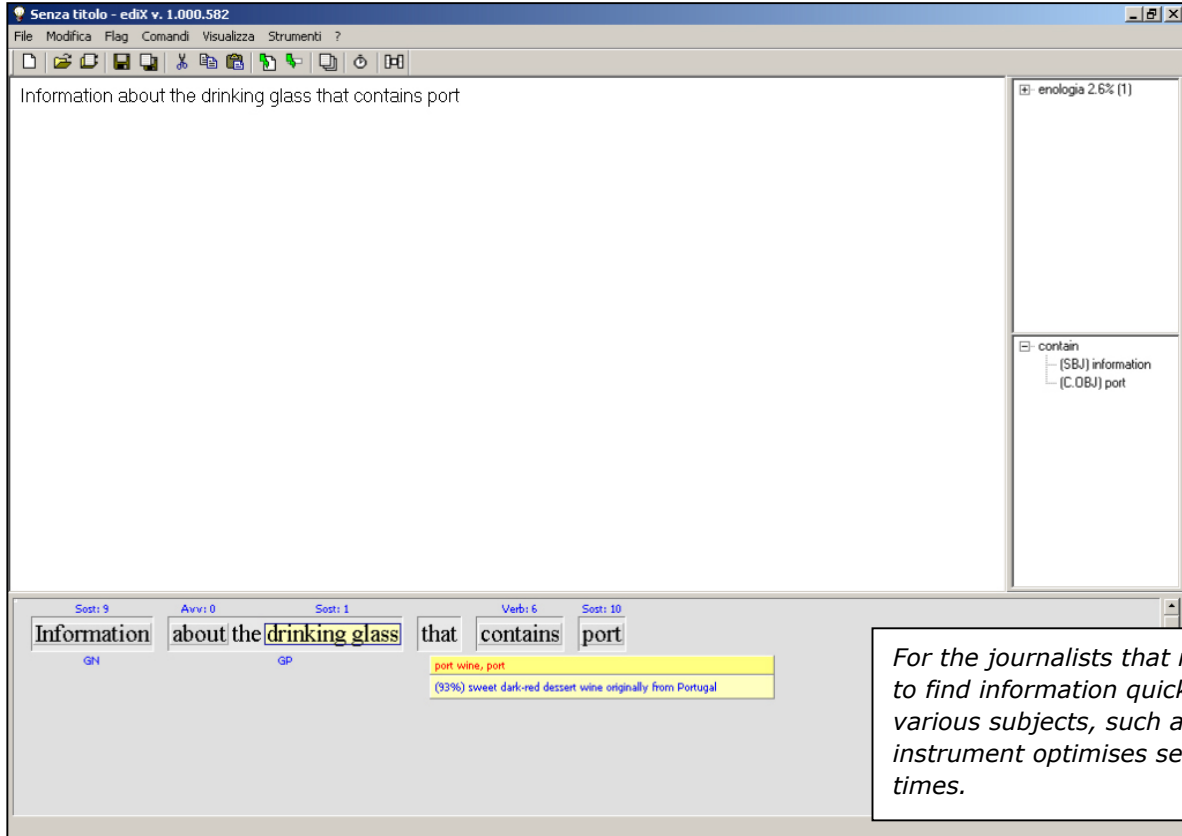
The disambiguator: the system developed by Expert System that queries the semantic net

Similarly, a journalist who wants to write an article on the origin of the *liqueur-like wine Port* and on its consumption, you're not required to specify the context, in fact the disambiguating technology can "guess" it. Writing:

"Information about the drinking glass that contains port" we leave the previous domain to enter the o*enology* domain and find out that we're talking about "port" meaning "wine", in this context.

For the journalists that need to find information quickly on various subjects, such an instrument optimises search times.

Search interfaces in natural language and via Sms

One of the search modes offered by the Expert System technology relies on natural language interfaces, that can be applied also to Sms searches and Internet/Intranet. Natural language interfaces allow the user to write the **queries in the everyday language**: the Expert System technology is in charge of turning the free query into the appropriate syntax to interact with the databases where the data are archived, to return accurate answers.

Papers, in particular, can access their data archives via Web, from their Network or via Sms, writing simple questions such as:

"I'm looking for information on the events of Tien an Men and on the life of Mao"

and receiving accurate answers in a few seconds.

NetWatcher

Realised in collaboration with Focuseek (www.focuseek.it), NetWatcher is an instrument which allows **to monitor the information** available on the Internet (or Intranet), automatically screening news Web sites (newspapers, press agencies, magazines, webzines...) to individuate quickly and effectively the news concerning a certain subject/object, or Web sites of companies (competitors and not only) to keep under control all the news on a certain subject in the most affective way.

Expert System for Portals

Easy navigation toolbars

Easy navigation toolbars allow the users to surf quickly the information of a Web site. They are instruments for the fidelization of the user, tools that make the navigation easy in frequently accessed pages, where the company wants to provide an extremely intuitive key of navigation.

An example of a toolbar very much appreciated by the Internet people: www.deejay.it

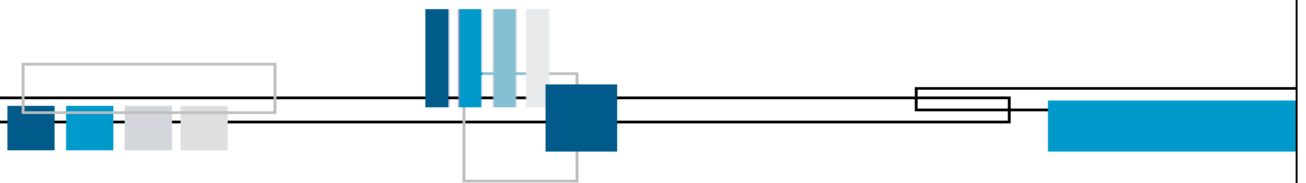*A fast access to all the information of the Web site.*

Live chat support

Expert System guarantees support via Web also in an indirect way, through **live chat** systems that perfectly integrate in every portal without altering in any way their structure and that represent an important value added to customer care by on-line companies.

The Expert System *live chat* system is a platform where the company meets its market, allowing an easy interaction and exchange of documents and images among Contact Centre operators and users of the Web site.
   It's the easiest way to support those who surfs searching information.

Conceptual search engines in portals

   The Expert System search engines perfectly integrate in every portal, to perform searches within the portal itself or in the whole Web: the remarkable differences comparing to the ordinary engines are the **accuracy of the answer** and the **easiness** of formulation of the query, thanks to natural language. The precision of the answer is guaranteed by the automatic spell check for common errors and by the technology for the disambiguation of meanings and for the individuations of the domains to which the words of the query belong: this removes the many meanings of each word, reducing the results to those requested by the customer, without any digression.
   The two technologies that perform conceptual searches are **eCenter** (for searches within the Web site) and **eConcept** (for web searches).
An application of the Arianna engine: www.libero.it.
   For the engine of Libero, Expert System supports the areas 'Advices' (individuates the further meanings of a term in addition to the main one, for example Neptune as planet, mythological deity and geographic place) and 'Arianna suggests' (a selection of targeted results, which minimizes the digressions from the requested subject): both are the result of an expert mix of technology and consulting of a team of experts.

Web sites designing

Since two years Expert System can rely on the consulting of a team of Web experts who operate collaborating with the company: the co-partner Expert Web, IT and web agency, provides consulting, graphic design and Web architectures, tailoring its offer to fit the needs of the customers.

EXPERTWEB
IT & WEB SOLUTIONS

- consulting and graphic design;

- Web sites;

- Flash presentations;

- e-commerce projects (B2B e B2C);

- technology for the Web, for business information systems and for the exchange of data and information with the suppliers;

- realization of catalogues and multimedia presentations;

- e-learning projects;

- development of intranet/extranet applications for the administration of advanced services for the remote connection.

www.expertweb.it

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Expert System S.p.A. has been operating in the field of linguistics since 1989.
After many years' experience in the development of software for the consumer market, it has turned to the market of business solutions.

Today, the company consists of three divisions: eCRM, Knowledge Management & Information Mining, Language solutions and Translation. These three divisions are characterized by the same concern in advanced language technologies which allow everyday language to be analysed and understood.

Thanks to the proprietary platform Cogito®, Expert System develops solutions for automatic text analysis, rapid information retrieval, document classification, automatic mail sorting and automatic interpretation of natural language.