



Through the use of **Exsys Corvid Knowledge Automation Expert Systems**, potential customers, support staff, clients and employees are able to obtain problem-solving recommendations, as if they were consulting with a firms' best experts - and they're available 24 hours a day. Exsys's approach and techniques of knowledge capture are extremely effective for a broad range of project areas.

For over two decades our customers have successfully implemented thousands of interactive decision-making systems, which are in use worldwide, and they're realizing significant efficiency gains and return on their investment. Some of the most successful categories include:

Problem-Solving Diagnostics – When experts identify malfunctions or interpret complex data, they quickly look for symptoms indicative of particular problems. The knowledge of how to handle these problems is ideal for conversion into a knowledge automation expert system. The knowledge of the best experts can be made widely available over the Web. By making this knowledge accessible by employees or customers that need it, such systems reduce downtime, increase productivity, and free up experts to handle more complex problems and projects. These systems are also beneficial in capturing the problem-solving expertise of seasoned experts that may be retiring or changing jobs.

Customer/Product Support – These problems are in most ways similar to diagnostic problems, but often go beyond the diagnosis of a malfunction and include following a precise sequence or specific procedures. A knowledge automation expert system is the ideal front-end to a more traditional Help Desk. The system can handle the first (and often higher) levels of interaction with the user. In many cases, the system can solve the problem, without using support staff resources. If the problem is unusual and not part of the system, Corvid can interface to a traditional help desk, opening a case ticket and passing on information about what has already been done to fix the problem. Knowledge automation systems interfaced with traditional help desks bring less experienced staff up to speed quickly without repeated training or interruptions, and provide a more personalized and effective online support environment.

Regulatory Compliance – Though regulations can be very complex, regulations are generally documented in a form very similar to the IF/THEN form of business rules. Corvid regulatory systems insure that all relevant regulations are considered and all policies followed consistently. The logic behind a decision can be automatically documented. These systems provide significant cost savings by helping companies stay within industry compliance, protect employees, and avoid potential fines and possible bad publicity. Many government agencies use Exsys Corvid on their Web sites to provide regulatory information to the public.

WINK-Site Guides – Large Web sites have many pages of information tailored for specific visitors and interests. But actually finding the desired information is increasingly difficult, even in well-structured sites. An alternative to complex linking strategies is a Corvid **W.I.N.K.** (What I Need to Know) system. It provides an "expert consultation" with the visitor to determine what parts of the site will be relevant to them. Then a customized page is dynamically built with just the information they need, and links to the appropriate parts of the site. Unlike some other database techniques that allow limited "customization", with Corvid the full power of the Corvid Inference Engine can be used to determine what to display. The result is a unique and very pleasant experience for visitors. These types of systems can also be incorporated directly within emails - great for product selection and customer support - anywhere you want to provide direct decision-making capabilities in communications.

Decision Support – Business intelligence and advice is becoming a strategic part of many companies' assets and competitive advantage. Many types of decisions and recommendations can be converted into knowledge automation expert systems. They provide business users with the ability to access, analyze, and share information stored in a company's databases, manufacturing systems and other data sources, in ways not practical with other technologies. Exsys Corvid systems make the analytical knowledge of the best experts available to all. Systems can be accessed on-demand, or run in the background to monitor for developing situations. Effectively disseminating and providing access to expert systems greatly increases a firm's potential in many ways, and is an ideal way to disseminate specialized skills with minimal training.

Smart Questionnaires – One of most common uses of knowledge automation expert systems is to make questionnaires more intelligent. The logic of an expert system leads to asking only pertinent questions, which have been determined to be relevant due to previous answers the user has provided. No irrelevant questions are asked, and no important issues are overlooked. This produces a far superior user "consultation". Collected data can be sent to other programs, or stored in databases. Systems can be embedded and/or results presented in emails.

Product Selection / Recommendation – Selecting which products best meet a customer's needs and requirements can be a very complex process. But it is one that can be expressed in logical rules relating to customer needs and product specifications. Unlike case-based or "learning" approaches, expert systems handle conflicting requirements by using expert knowledge to weight the factors that are most important for a particular customer or situation. They also always give a recommendation of the best fit, even when all customer desires cannot be met. A Web site is a "virtual salesperson" - it should not say: "we have nothing that matches your needs" - instead it should recommend the best options, just as a human salesperson would.

Configuration – Configuring complex systems with many pieces usually requires an expert with many years of experience. They must determine which pieces are required, but avoid any incompatibilities. This is an ideal problem for the precise and meticulous analysis of an expert system, which can guarantee valid and complete configurations. Modularity allows an Exsys Corvid system to be built in small, manageable modules that automatically combine to provide the high-level logic needed to solve the problem. The system can also create a report explaining the basis for its recommendation. External factors such as inventory and customer deadlines can also be incorporated into the system.

Data Analysis – There are many types of problems, which require a combination of numeric analysis and non-numeric data to be analyzed logically. Knowledge automation expert systems are an ideal way to deal with such problems. Purely numeric analysis can be handled internally, or it can be interfaced to other external programs. The addition of powerful rule-based logic analysis makes it possible to handle non-numeric relationships that are often cumbersome in traditional numerical analysis software. Persons interacting with the systems don't require the extensive knowledge of interpreting the data. The expert system analysis process can even be completely embedded within other systems to appear invisible to end-user.

Inconsistency Detection – Knowledge automation expert systems can monitor customer transactions against policies and procedures to detect inconsistencies that may indicate problems like fraud or other irregularities. The ability of the expert systems to handle complex logic allows such systems to be much "smarter", both in detection and in recognition of illegitimate users that might not trigger other systems.

Manufacturing / Process Control – Knowledge automation expert systems have a long, proven history of use in controlling processes to detect and correct problems before they become serious. From DuPont to Eastman Chemical, many of the major industrial companies rely on expert systems. They run invisibly in the background to analyze various data tags throughout a process and alert operators of potential problems.

Exsys Corvid Knowledge Automation Expert Systems can be run via the Exsys Corvid Servlet Runtime, client-side using the Exsys Corvid Java Applet, or also run as stand-alone applications.



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