



With SmartSearch® Technology

Document Management in a University Environment

*A White Paper
by
Applied Information Sciences Corp.
Copyright© 2005 AIS*



Document Management in a University Environment

Summary

Documents and forms are critical elements that impact the efficiency of all aspects of how universities perform their business. WriteApproach is a software system that provides a unified approach to streamline the design, creation, management and flow of documents and forms in universities and colleges. By improving the efficiency of the entire document and form process, universities and colleges improve their performance, save money and significantly reduce errors. WriteApproach can integrate seamlessly into existing enterprise and legacy solutions and applications thereby making all data accumulated and stored with WriteApproach available to many other corporate applications.

Introduction

A high level of document management is critical to a well run university or college.

Universities create and manage very large numbers of documents on a daily basis. These documents are the centerpiece of the university business, academic, and research functions. Grant administration, RFP and proposal administration, employment applications and employee records, correspondence, contracts, and research reports, journal papers and working papers are but a few of the broad spectrum of documents that are required in a major university or college.

The process of managing this massive volume of documents in a college or university involves the ability to integrate many small centers that utilize similar sets of documents to perform a distinct function within the overall university environment. Each center can contain its own document creation, management, and workflow processes.

For example, the contracts group creates contracts for the university's legal relationships. These can include leases, business agreements, subcontract agreements, or consulting agreements to name a few. A draft of a contract might be created by a subordinate, reviewed and edited by a supervisor and finally approved by the Director or Vice President in charge of the function. At each step of the process, the document can flow up for additional review or down for rewrite. Ideally, the initial draft of the contract would use a pre-approved format for the specific type of contract.

A group writing a proposal in response to an RFP would use a similar review and rewrite process. In addition, significant portions of the proposal would utilize standard text covering university experience, resumes, etc.

Finally, a section might be responsible for a particular phase of research project. This project will create many versions of working papers, journal articles, interim contract reports and final reports. Again, at each step, a document creation, management, and workflow process would be in place.

Each section or center might have as few as 5 people or hundreds of people depending on the function.

While each section's functions, responsibilities, and documents are different, the overall document management process requirements are similar. Documents must be easy to create, be extremely accurate, and all vital information in each document must be able to be extracted and stored in a local database that can be integrated into the overall enterprise wide applications databases. In addition, a clear edit and approval workflow path must be able to be defined and enforced. A database index to every document must be created with no user intervention, and every document must be able to be located and retrieved whenever required.

APPLIED INFORMATION SCIENCES CORP.

PO Box 9182 • Calabasas, CA 91372 • 818-222-0926 • 222-4FAX • www.aisciences.com

All documents that are created and used in any of the centers can be categorized into two main categories: fixed forms and free form documents.

Fixed forms – structured forms that are displayed for a user to enter information into specific areas. These forms may also include check boxes to be used as part of the entry procedure. Employment applications, employee records, and administrative forms fall into this category.

Free form documents – These consist of documents that are created using a word processor with little or no restriction on format. Research papers and contracts fall into this category.

A complete document management system must have the flexibility to be equally effective with both types of documents and with mixed documents that contain elements of both fixed and freeform.

Once data have been extracted from the documents and stored in a database, it must be converted from data to knowledge. This process requires reporting tools that can access the stored data and aggregate and summarize the data from groups of related documents.

Statistical trend analysis, business projections, and document production reports lead to the knowledge necessary to understand the data extracted from the forms and documents or to make informed business decisions.

The system must be flexible enough so that all documents, forms, and reports can be created by non-technical personnel using applications that are very similar to the standard word processors that are routinely used.

Document Management Issues

Research papers, RFPs, grants, proposals, contracts, forms and correspondence must be able to be retrieved even if they are stored on many different computers using many different file naming conventions.

Research Documents

Typically, university research projects such as medical research in a university teaching hospital or medical school has many researchers creating reports, journal papers, and working papers over a long period of time. These papers usually are created using a standard word processor such as Microsoft Word and are saved on many different computers in the local area network.

Generally, there are no standards for naming files or folders and each researcher uses a unique system. Even if a naming standard was in place and every researcher used it, a file name can only very generally describe the contents of the document. After a period of time each researcher may not remember all of the documents that have been created and may not be able to locate his/her documents by subject content. A researcher will almost certainly not be able to retrieve the documents created by associates on a particular subject. Retrieval of documents stored on each researcher's local computers offers even more challenging problems.

What is needed is a system that can automatically create a searchable index of all documents created by any researcher in a group, enable any researcher to search the index for desired documents by subject, author or by any other pertinent information, and retrieve the document no matter what the file name is or on which computer in the local area network the document has been stored. These features will create a seamless system of documents that can be searched and retrieved based on any related search criteria. Also, the system must not require additional work for the author or significantly change the manner in which the authors create their documents.

All information extracted from these documents should be able to be shared with other enterprise and legacy applications.

RFPs, Grants, and Proposals

RFPs, grants, and proposals have many similarities to research documents. In addition, these types of documents contain paragraphs and sections that are identical or nearly identical from one RFP, grant, or proposal to another. Finally, these documents can also contain forms that must be filled in such as a cover sheet or cost proposal summary.

To facilitate the creation of these types of documents, the user should be able to create reusable paragraphs and sections that can be used many times in several documents. Also, it should be easy to enter the required information on the forms that are used for the cover sheets and all critical information should be captured into a database for future reference and as an index to locate past proposals.

As with the research documents, indexes must be created that can be used to search for and retrieve any document created and stored anywhere in the network on any computer using any file naming convention.

Forms and Fixed Format Documents

Universities use forms and fixed format documents for many applications including employment applications, student enrollment information, purchasing documents, internal documents, and as previously noted, RFP, grant and proposal cover sheets.

All forms should be relatively easy to create electronically, easy for the user to fill in, and should be able to automatically capture all important information from the form and enter it into a database without having to re-enter the information.

WriteApproach

WriteApproach document management system... Word processing, database management, and spreadsheets working together.

WriteApproach™ from Applied Information Sciences Corp. is a software product that has been specifically designed to achieve the goal of a seamless system of documents. Each document is automatically indexed in a central database along with the complete network path where the document is stored. The central index can be searched by any predefined search fields or the entire text of the document can be searched to retrieve documents of interest. When documents are retrieved, the original document, not a recreation, is retrieved.

The WriteApproach central database can be many localized databases distributed throughout a university or can be an enterprise level database located on a central server. Purchasing can use a WriteApproach database reserved exclusively for purchasing items or a legal department can use its own WriteApproach central database. The WriteApproach central database structure can be the database included with WriteApproach, or any ODBC compliant database system such as SQL Server or Oracle. All data contained in the WriteApproach central

databases can be seamlessly integrated into other enterprise databases.

Documents can be created totally within WriteApproach or created using a standard word processor such as Microsoft Word and indexed by WriteApproach. WriteApproach is compatible with many standard file formats including, Microsoft Word, Adobe PDF, HTML, Rich Text format, and text files.

Indexes can be created in three ways. The full text of any document is always searchable. In addition, fields can be inserted into the form or document to store and index specific sections of the report. Also, if desired, an index page can be added to the end of the document that contains specific information about the document that also can be used to locate and retrieve the document. This additional information can be the title, author, key words, contract number, subject, or any other information that is important. There is no fixed format for this page and the user can add any additional information desired.

APPLIED INFORMATION SCIENCES CORP.

PO Box 9182 • Calabasas, CA 91372 • 818-222-0926 • 222-4FAX • www.aisciences.com

WriteApproach contains a workflow module that allows documents to be reviewed, edited, and approved by a colleague or supervisor. Comments can be inserted into a document on a temporary basis or permanently stored in the WriteApproach central database. Documents can be printed with or without comments. It is even possible to print only the comments as a separate document. Documents flow up or down for review, rewrite, or approval and archive based on predetermined rules. Separate rules can be defined for each document center within the enterprise.

For contracts and other legal documents, WriteApproach has a redaction capability where text can be marked for removal but yet remain in the document for reference. When the final document is printed, the redacted text can be included, excluded, or shown as a black line to indicate redacted text.

Paragraphs and document sections can be created and stored to be used in several documents. Each paragraph or section is given a name and a brief description for easy identification. To insert a paragraph or section, the user simply looks at a pull down list of available paragraphs or sections, reviews the brief descriptions and selects the desired one.

To ensure that documents such as proposals are complete, WriteApproach can perform an analysis of the document based on a check list of required items. WriteApproach can even highlight those items that should be removed from the document based on a list of disallowed items.

Reusable freeform documents can include specially designed data entry windows to make it extremely easy for the user to enter all required information. In addition, WriteApproach can automatically fill in some information by using partial inputs and searching the WriteApproach database for related information from previous

forms created. Certain fields can be designated as required. The document cannot move forward if any of the required fields are left blank.

WriteApproach includes the capability to create Excel compatible spreadsheets that contain lists of documents based on criteria such as subject matter, author, name, contract number, or any other search criteria related to the documents. These spreadsheets can even perform statistical analysis of information entered into the forms or reports and can form the bases for an interface to other mathematically oriented reports.

The event module of WriteApproach can be used to alert the user that a deadline is approaching to create a particular document. Many events can be defined and monitored by WriteApproach.

When reusable documents and forms are to be transmitted over low bandwidth wireless networks, WriteApproach has special functionality to substantially reduce the size of the transmitted document without sacrificing document content or format.

WriteApproach contains Applied Information Science Corp.'s SmartSearch® technology to make it easier and faster to search the WriteApproach central database and locate documents of interest.

Maximum Return on Investment

WriteApproach will reduce document related overhead, substantially reduce errors, increase control over document format and content, and become an important tool for business analysis and decisions. In addition, because WriteApproach can share data with existing enterprise and legacy applications, the performance and usefulness of these other systems will improve.

Applied Information Sciences Corp.

Applied Information Sciences Corp... Quality and experience

Applied Information Sciences Corp. has been providing high quality prepackaged software solutions to companies and education for over 20 years. Its SmartSearch family of intelligent

information retrieval technologies and products has helped millions of students perform online research, libraries to locate books of interest, and

APPLIED INFORMATION SCIENCES CORP.

PO Box 9182 • Calabasas, CA 91372 • 818-222-0926 • 222-4FAX • www.aisciences.com

now WriteApproach users to easily and quickly retrieve archived documents.

AIS's professional services develop unique software solutions for companies and educational organizations. Its clients include insurance

companies, distributors, school districts, and aerospace companies to name a few.

For more information or to find an authorized WriteApproach reseller please call Applied Information Sciences Corp. at 818-222-0926 or email sales@aisciences.com.

APPLIED INFORMATION SCIENCES CORP.

PO Box 9182 • Calabasas, CA 91372 • 818-222-0926 • 222-4FAX • www.aisciences.com