XML

Overview

XML uses markup symbols to describe content in terms of what data is being described. Depending upon the receiving program, an XML file can be processed purely as data, stored with similar data on another computer, or displayed. XML is "extensible" because the markup symbols are unlimited and self-defining. Since the release of the initial XML 1.0 Recommendation, XML has emerged as the "lingua franca" for electronic data interchange. The success of XML for describing data has led to the development of an integrated set of standards, including XML Schema, XPath, XLink, XSL, XQL, and XHTML, to name a few.

Making IT Work. Together.

SPS has a proven record of delivering award-winning solutions leveraging cutting-edge XML technologies. We have developed solutions that leverage XML in all areas of development, including Document Analysis and Schema Modeling, Business Workflow Modeling, Case Management, Standards Development and Implementation, XSL Stylesheet Design (including XSL Transformations and XSL Formatting Objects), Web Services, and Systems Integration.

Using an iterative development process based on Rational Unified Process (RUP) principles, our analysts work with you to develop solutions that are easy to maintain and easy to extend. The iterative RUP phases ensure your active participation and guidance. During the Inception phase, we will gather current and future business requirements. In the Elaboration phase, we will model data structures and business objects. In the Construction phase, we will create reusable components based on those models to ensure that common business objects are used consistently across the enterprise. In the Transition phase, we will provide documentation and training to your staff, enabling you to maintain and extend your information assets.

Featured Solutions

International Intellectual Property Treaty Organization: ePCT

The Patent Cooperation Treaty (PCT), signed by over 125 countries, makes it possible to seek patent protection for an invention simultaneously in each of a large number of countries by filing an "international" patent application.

SPS developed a suite of component-based XML schemas and Document Type Definitions (DTDs) for each of the several documents required of a patent application. The schemas and DTDs were formally reviewed by PCT member states and published as a PCT annex. The standards have become the basis of national patent applications at patent offices worldwide.

SPS staff evaluated and contributed to the development of sophisticated authoring tools to allow easy, valid XML file creation in a familiar word-processing environment. Staff also developed the reference standard XSLT and XSL-FO stylesheets to process and render XML data to print and Internet media

CLIENT BENEFITS:

- International standard not owned by any particular vendor
- Future-proof: data is represented as simple ASCII or Unicode text
- Software, hardware, and platform independent
- Data is self-describing
- Data can be validated for content and data formats
- Separates content from presentation; the same data can be represented in multiple formats

including HTML and PDF in seven languages.

U.S. Patent and Trademark Office (USPTO) - Electronic Filing System (EFS)

To enable electronic submission of patent application data, SPS analyzed dozens of paper forms and other business process documents to create DTDs from a pool of common XML elements. In addition to establishing a syntax that enabled enterprise-wide reuse of data, the workflow could be driven by XML content, enabling document-driven routing and docketing.

SPS also developed authoring tools to simplify the creation of XML content formulation, productivity tools to facilitate transmission and examination of patent application documents, and stylesheets to render XML patent application and publication documents.

USPTO - Revenue Accounting and Management (RAM) System

The RAM system is a mission-critical enterprise financial management system providing subsidiary ledger accounting for all revenue collection and deposit account operations for

"XML is a flexible, nonproprietary set of standards for tagging information so that it can be transmitted over a network such as the Internet ...XML offers the promise of making it significantly easier for organizations and individuals to (1) identify, integrate, and process information that may initially be widely dispersed among systems and organizations, and (2) conduct transactions based on exchanging and processing such information."

-August 2002 General Accounting Office (GAO) report entitled: National Preparedness: Technology and Information Sharing Challenges

USPTO. RAM processes over $1 billion per year.

The majority of these applications employed service-oriented architectures and model-view controller design; and most were implemented on the J2EE platform leveraging XML-RPC, Apache Extensible Interface for SOAP (AXIS), and Java Messaging Service (JMS).

By implementing RAM Web Services using AXIS, SOAP messages containing XML and other information can be sent to RAM web services accessible by other applications. This makes it possible to embed RAM services into those applications regardless of their implementation technology.

Summary

SPS's certified XML experts are engaged with the XML community in providing thought leadership and a pragmatic perspective forged through real-world experience. SPS technologists have presented demonstrations, tutorials, case studies, and best practices to local, national, and international audiences at XML-related and other technical conferences. Imagine what we can do working together! Let us put our expertise and experience to work for you.

ABOUT SPS

Software Performance Systems, Inc. (SPS), a small business based in Northern Virginia, is a privately held full-service information technology services provider. Established in 1995, SPS specializes in the design and integration of sophisticated web-based enterprise solutions for both the US Government and worldwide commercial clients. SPS has been honored with many national awards, to name a few: #10 ranking in the Computerworld Top 100 Best Places to Work in IT, Deloitte's Virginia Technology Fast 50 and North America Technology Fast 500, Excellence.gov Grand Prize Winner, E-Gov Pioneer Award, and SBA — Exporter of the Year. **SPS. . .proven over time.**