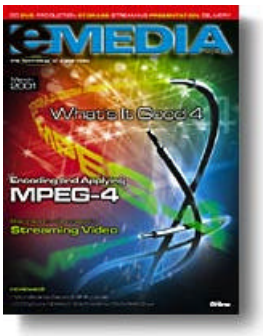

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XML Does Rich Media

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When you think of XML, you probably think of document structures or exchanging and converting information from one form to another. Few think of rich media óyet if rich media is increasingly visible on the Web, then it should be no surprise that XML is there, too. What is surprising is the scope and breadth of this XML influence, how long there have been XML rich media standards, and the range of tools already available and emerging to exploit them.

First, an obvious question: Why use this new term ìrich media,î when ìmultimediaî seems to cover the same thing? This emerging category emphasizes the Web capabilities that offline multimedia files often lack, including integrating, synchronizing, and delivering these media over many devices in real time. Rich media increasingly means the ability to target multimedia delivery in various formats from one source to broadband, wireless, and various wired boxes such as personal computers and interactive TV, all while promoting ecommerce.

A review of XMLís ìrich mediaî capabilities starts with a nearly three-year-old standard: the Synchronous Multimedia Integration Language (SMIL). This XML standard defines a two-dimensional framework within which you can display one or more two-dimensional windowed regions. Each region can display text, video, graphics, or animation in parallel or serially. Furthermore, you can deliver one or more audio tracks, and synchronize delivery of all the content. With the notable exception of Microsoft, vendors quickly began using this standard, and Microsoftís exclusion effectively required one or more plug-ins or players to receive SMIL content.

After the release of SMIL, the W3C began working on a more ambitious standard, now called ìSMIL 2.0.î This new version of SMIL defines an XML-based language that adds interactivity to multimedia presentations.

With SMIL 2.0, authors will be able to time-sequence multimedia objects (e.g., stacking one image on top of another over time), associate hyperlinks with media objects, and describe the layout of the presentation on a screen. Additionally, authors will be able to integrate timing and synchronization into other XML systems, such as XHTML and SVG.

As is often true with Microsoft, its streaming media player (ìWindows Mediaî) is proprietary, but the ability to integrate SMIL support directly into Web pages and browsers has gotten its attention. As browsers continue to integrate with practically everything, we expect part or all of SMIL 2.0 capabilities to be available both in browsers and players, though it may take over a year for SMIL 2.0 to be completed. In the meantime, Microsoft already says that Explorer 5.5 supports elements of SMIL (via a Microsoft-backed proposal called HTML+Time) like timing, basic animation, and synchronization.

Where do graphics fit in the body of XML standards? After all, SMIL merely defines windows and time-sequencing for media objects but doesnít specify the objects themselves. On November 2, 2000, the W3C released its XML-based graphic standard, the ìScaleable Vector Graphicsî standard or SVG. SVG is an open standard for vector ìshapes-and-curvesî graphics. What makes SVG so exciting is that the power of many companion XML standards can be applied to graphics. For example, text within SVG graphics will now be searchable.

Like XML body elements, SVG elements can now be presented with external styles. Just as you can change the appearance of a Web page with a new style sheet, you can just as easily apply a new style to change the presentation of an SVG graphic.

The use of SVG also works in the other direction: from XML to SVG. Data from a database or XML document could be presented graphically in real-time. XSLTóthe standard that allows document elements to be sorted or viewed based on custom needs óis also applicable to graphics. XSLT with SVG could provide the ultimate in personalization with many implications for both multimedia and ecommerce. One graphic could be presented differently, not just scaled, depending on the personalization requirements.

And thatís not all. The MPEG-7 standard, formally named ìMultimedia Content Description Interface,î describes multimedia content to allow effective indexing by search engines. When itís implemented, youíll be able to search for audio, graphics, images, and video effectively. MPEG-7ís preferred language to describe its content is XML Schemas.

So are there real tools that support these emerging XML rich media standards? Apart from RealNetworkís authoring and playback tools (which have supported SMIL for over a year now), others are busy exploiting these standards. In late September, Oratrix Development BV (http://www.oratrix.com) announced a beta release of its Graphical Interface for SMIL player (ìGRiNSî) that supports SMIL 2.0. Additionally, its GRiNS authoring software will create presentations for deployment on either RealNetworksí 100 million players or on its own GRiNS player. Adobe is promising support for SVG in Illustrator and LiveMotion. Appleís QuickTime version 4.1 now supports SMIL. Adobe has licensed MTS3 3D Web streaming technology from Metastream, which will incorporate SVG technology. Until browsers provide native SVG support, Adobe is offering SVG viewers with its products and on its Web site. Macromedia too helped define SVG, and is ìwelcomingî this potential competitor of Flash as it figures out how to incorporate SVG into its product lines.

If you thought XML was only for words, get Real.

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